

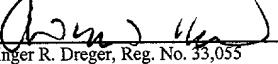
PATENT
UC067.002A
Date: May 1, 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Saxon et al.
Appl. No. : File Herewith
Filed : May 1, 2001
For : FUSION MOLECULES AND
TREATMENT OF IgE-
MEDIATED ALLERGIC
DISEASES
Examiner : Unknown
Group Art Unit : Unknown

I hereby certify that this correspondence and all
marked attachments are being deposited with the
United States Postal Service as first class mail in
an envelope addressed to: Assistant Commissioner
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May 1, 2001
(Date)


Ginger R. Dreger, Reg. No. 33,055

SEQUENCE SUBMISSION STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

I hereby state that the information recorded in computer readable form is identical to the
written sequence listing submitted herewith as required in 37 CFR § 1.821(f) and (g).

I further state that this submission includes no new matter.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 1, 2001

By: 
Ginger R. Dreger
Registration No. 33,055
Attorney of Record

SEQUENCE LISTING

<110> Saxon, Andrew
Zhang, Ke
Zhu, Daocheng

<120> FUSION MOLECULES AND TREATMENT OF
IgE-MEDIATED ALLERGIC DISEASES

<130> UC67.002A

<160> 177

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 696

<212> DNA

<213> Homo sapiens

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<210> 2

<211> 330

<212> PRT

<213> Homo sapiens

<400> 2

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					20				25				30		
Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser
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Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
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Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Leu	Gly	Thr	Gln	Thr	
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Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys
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Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys
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Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro
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Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu		160
165	170	175
Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu		
180	185	190
His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn		
195	200	205
Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val		
210	215	220
Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu		
225	230	235
Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr		240
245	250	255
Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn		
260	265	270
Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe		
275	280	285
Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn		
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Gln Arg Ser Leu Ser Leu Ser Pro Gly Lys		320
	325	330

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<211> 232
<212> PRT
<213> Homo sapiens

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35	40	45	
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val			
50	55	60	
Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln			
65	70	75	80
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln			
85	90	95	
Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala			
100	105	110	
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro			
115	120	125	
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr			
130	135	140	
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser			
145	150	155	160
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr			
165	170	175	
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr			
180	185	190	

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
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 Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg
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 Ser Leu Ser Leu Ser Pro Gly Lys
 225 230

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 <212> DNA
 <213> Homo sapiens

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 tttagcgtct gctccaggga cttcacccccc cccaccgtga agatcttaca gtcgtcctgc 360
 gacggcggcg ggcacttccc cccgaccatc cagctcctgt gcctcgctc tgggtacacc 420
 ccagggacta tcaacatcac ctggctggag gacgggcagg tcatggacgt ggacttgtcc 480
 accgcctcta ccacgcagga ggttgagctg gcctccacac aaagcgagct caccctcacy 540
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 gtggacctgg caccagcaa ggggaccgtg aacctgaccc ggtcccccggc cagtggaaag 780
 cctgtgaacc actccacccag aaaggaggag aagcagcgc atggcacgtt aaccgtcacy 840
 tccaccctgc cggtggcgcac ccgagactgg atcgaggggg agacctacca gtgcagggtg 900
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 agctgtgcag tggggaggac tgccagacc ttctgtccac tggtaatg accccagaa 1380
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<210> 5
 <211> 427
 <212> PRT
 <213> Homo sapiens

<400> 5
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 Ile Pro Ser Asn Ala Thr Ser Val Thr Leu Gly Cys Leu Ala Thr Gly
 20 25 30
 Tyr Phe Pro Glu Pro Val Met Val Thr Trp Asp Thr Gly Ser Leu Asn
 35 40 45
 Gly Thr Thr Met Thr Leu Pro Ala Thr Thr Leu Thr Leu Ser Gly His
 50 55 60
 Tyr Ala Thr Ile Ser Leu Leu Thr Val Ser Gly Ala Trp Ala Lys Gln
 65 70 75 80
 Met Phe Thr Cys Arg Val Ala His Thr Pro Ser Ser Thr Asp Trp Val

85	90	95
Asp Asn Lys Thr Phe Ser Val Cys Ser Arg Asp Phe Thr Pro Pro Thr		
100	105	110
Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe Pro Pro		
115	120	125
Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile		
130	135	140
Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser		
145	150	155
Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu		
165	170	175
Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys		
180	185	190
Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys		
195	200	205
Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser		
210	215	220
Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val		
225	230	235
Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg		
245	250	255
Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln		
260	265	270
Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg		
275	280	285
Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His		
290	295	300
Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg		
305	310	315
Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser		
325	330	335
Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu		
340	345	350
Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala		
355	360	365
Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe		
370	375	380
Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp		
385	390	395
Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr		
405	410	415
Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys		
420	425	

<210> 6
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 6
 Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly
 1 5 10 15
 Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr
 20 25 30
 Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met
 35 40 45

Asp	Val	Asp	Leu	Ser	Thr	Ala	Ser	Thr	Thr	Gln	Glu	Gly	Glu	Leu	Ala
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Ser	Thr	Gln	Ser	Glu	Leu	Thr	Leu	Ser	Gln	Lys	His	Trp	Leu	Ser	Asp
65					70					75					80
Arg	Thr	Tyr	Thr	Cys	Gln	Val	Thr	Tyr	Gln	Gly	His	Thr	Phe	Glu	Asp
					85				90					95	
Ser	Thr	Lys	Lys	Cys	Ala	Asp	Ser	Asn	Pro	Arg	Gly	Val	Ser	Ala	Tyr
					100			105					110		
Leu	Ser	Arg	Pro	Ser	Pro	Phe	Asp	Leu	Phe	Ile	Arg	Lys	Ser	Pro	Thr
						115		120				125			
Ile	Thr	Cys	Leu	Val	Val	Asp	Leu	Ala	Pro	Ser	Lys	Gly	Thr	Val	Asn
						130		135			140				
Leu	Thr	Trp	Ser	Arg	Ala	Ser	Gly	Lys	Pro	Val	Asn	His	Ser	Thr	Arg
						145		150		155					160
Lys	Glu	Glu	Lys	Gln	Arg	Asn	Gly	Thr	Leu	Thr	Val	Thr	Ser	Thr	Leu
						165			170			175			
Pro	Val	Gly	Thr	Arg	Asp	Trp	Ile	Glu	Gly	Glu	Thr	Tyr	Gln	Cys	Arg
						180		185			190				
Val	Thr	His	Pro	His	Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys
						195		200			205				
Thr	Ser	Gly	Pro	Arg	Ala	Ala	Pro	Glu	Val	Tyr	Ala	Phe	Ala	Thr	Pro
						210		215			220				
Glu	Trp	Pro	Gly	Ser	Arg	Asp	Lys	Arg	Thr	Leu	Ala	Cys	Leu	Ile	Gln
						225		230		235					240
Asn	Phe	Met	Pro	Glu	Asp	Ile	Ser	Val	Gln	Trp	Leu	His	Asn	Glu	Val
						245			250			255			
Gln	Leu	Pro	Asp	Ala	Arg	His	Ser	Thr	Thr	Gln	Pro	Arg	Lys	Thr	Lys
						260		265			270				
Gly	Ser	Gly	Phe	Phe	Val	Phe	Ser	Arg	Leu	Glu	Val	Thr	Arg	Ala	Glu
						275		280			285				
Trp	Glu	Gln	Lys	Asp	Glu	Phe	Ile	Cys	Arg	Ala	Val	His	Glu	Ala	Ala
						290		295			300				
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<211> 569
<212> PRT
<213> Unknown

<220>
<223> Fusion between hinge-CH₂-CH₃ (IgG1) to CH₂-CH₃-CH₄
 (IgE)

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   20          25          30
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
   35          40          45
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
   50          55          60
Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln
   65          70          75          80
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln

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Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala			
100	105	110	
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro			
115	120	125	
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr			
130	135	140	
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser			
145	150	155	160
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr			
165	170	175	
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr			
180	185	190	
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe			
195	200	205	
Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg			
210	215	220	
Ser Leu Ser Leu Ser Pro Gly Lys Val Glu Gly Gly Gly Ser Gly			
225	230	235	240
Gly Gly Gly Ser Gly Gly Gly Ser Phe Thr Pro Pro Thr Val Lys			
245	250	255	
Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro Thr Ile			
260	265	270	
Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile			
275	280	285	
Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala			
290	295	300	
Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr			
305	310	315	320
Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys Gln Val			
325	330	335	
Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp			
340	345	350	
Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe			
355	360	365	
Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp			
370	375	380	
Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser			
385	390	395	400
Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn			
405	410	415	
Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp			
420	425	430	
Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro			
435	440	445	
Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala			
450	455	460	
Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp			
465	470	475	480
Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile			
485	490	495	
Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala Arg His			
500	505	510	
Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe Val Phe			
515	520	525	
Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe			
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Arg Ala Val Ser Val Asn Pro Gly Lys
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<210> 8
<211> 159
<212> PRT
<213> Alnus glutinosa (Alder)

<220>

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Val Ala Pro Glu Ala Val Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp Arg Val Asn Phe Lys
65 70 75 80
Tyr Ser Phe Ser Val Ile Glu Gly Gly Ala Val Gly Asp Ala Leu Glu
85 90 95
Lys Val Cys Asn Glu Ile Lys Ile Val Ala Ala Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Phe His Thr Lys Gly Asp His Glu Ile
115 120 125
Asn Ala Glu Gln Ile Lys Ile Glu Lys Glu Lys Ala Val Gly Leu Leu
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Lys Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 9
<211> 113
<212> PRT
<213> Alternaria alternata

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Glu Ala Asp Ser Asp Arg Leu Asp Lys Leu Ile Ser Glu Leu Glu Gly
35 40 45
Lys Asp Ile Asn Glu Leu Ile Ala Ser Gly Ser Glu Lys Leu Ala Ser
50 55 60
Val Pro Ser Gly Gly Ala Gly Gly Ala Ala Ala Ser Gly Gly Ala Ala
65 70 75 80
Ala Ala Gly Gly Ser Ala Gln Ala Glu Ala Ala Pro Glu Ala Ala Lys
85 90 95
Glu Glu Glu Lys Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe
100 105 110
Asp

<210> 10
<211> 204
<212> PRT
<213> Alternaria alternata

<400> 10
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Asp Ala Lys Leu Phe Gln Val Ala Glu Thr Leu Pro Gln Glu Val Leu
35 40 45
Asp Lys Met Tyr Ala Pro Pro Lys Asp Ser Ser Val Pro Val Leu Glu
50 55 60
Asp Pro Ala Val Leu Glu Glu Phe Asp Gly Ile Leu Phe Gly Ile Pro
65 70 75 80
Thr Arg Tyr Gly Asn Phe Pro Ala Gln Phe Lys Thr Phe Trp Asp Lys
85 90 95
Thr Gly Lys Gln Trp Gln Gln Gly Ala Phe Trp Gly Lys Tyr Ala Gly
100 105 110
Val Phe Val Ser Thr Gly Thr Leu Gly Gly Gln Glu Thr Thr Ala
115 120 125
Ile Thr Ser Met Ser Thr Leu Val Asp His Gly Phe Ile Tyr Val Pro
130 135 140
Leu Gly Tyr Lys Thr Ala Phe Ser Met Leu Ala Asn Leu Asp Glu Val
145 150 155 160
His Gly Gly Ser Pro Trp Gly Ala Gly Thr Phe Ser Ala Gly Asp Gly
165 170 175
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Lys Ala Phe Tyr Glu Ala Val Ala Lys Ala His Gln
195 200

<210> 11
<211> 495
<212> PRT
<213> Alternaria alternata

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Lys Thr Phe Asp Val Ile Asn Pro Ser Thr Glu Glu Val Ile Cys Ser
35 40 45
Val Gln Glu Ala Thr Glu Lys Asp Val Asp Ile Ala Val Ala Ala Ala
50 55 60
Arg Lys Ala Phe Asn Gly Pro Trp Ala Lys Glu Thr Pro Glu Asn Arg
65 70 75 80
Gly Lys Leu Leu Asn Lys Leu Ala Asp Leu Phe Glu Lys Asn Ala Asp
85 90 95
Leu Ile Ala Ala Val Glu Ala Leu Asp Asn Gly Lys Ala Phe Ser Met
100 105 110

Ala Lys Asn Val Asp Val Pro Ala Ala Ala Gly Cys Leu Arg Tyr Tyr
 115 120 125
 Gly Gly Trp Ala Asp Lys Ile Glu Gly Lys Val Val Asp Thr Ala Pro
 130 135 140
 Asp Ser Phe Asn Tyr Ile Arg Lys Ser Leu Leu Val Phe Ala Val Arg
 145 150 155 160
 Ser Ser Met Glu Leu Pro Ile Leu Met Trp Ser Trp Lys Ile Gly Pro
 165 170 175
 Ala Ile Ala Thr Gly Asn Thr Val Val Leu Lys Thr Ala Glu Gln Thr
 180 185 190
 Pro Leu Ser Ala Tyr Ile Ala Cys Lys Leu Ile Gln Glu Ala Gly Phe
 195 200 205
 Pro Pro Gly Val Ile Asn Val Ile Thr Gly Phe Gly Lys Ile Ala Gly
 210 215 220
 Ala Ala Met Ser Ala His Met Asp Ile Asp Lys Ile Ala Phe Thr Gly
 225 230 235 240
 Ser Thr Val Val Gly Arg Gln Ile Met Lys Ser Ala Ala Gly Ser Asn
 245 250 255
 Leu Lys Lys Val Thr Leu Glu Leu Gly Gly Lys Ser Pro Asn Ile Val
 260 265 270
 Phe Ala Asp Ala Asp Leu Asp Glu Ala Ile His Trp Val Asn Phe Gly
 275 280 285
 Ile Tyr Phe Asn His Gly Gln Ala Cys Cys Ala Gly Ser Arg Ile Tyr
 290 295 300
 Val Gln Glu Glu Ile Tyr Asp Lys Phe Ile Gln Arg Phe Lys Glu Arg
 305 310 315 320
 Ala Ala Gln Asn Ala Val Gly Asp Pro Phe Ala Ala Thr Leu Gln Gly
 325 330 335
 Pro Gln Val Ser Gln Leu Gln Phe Asp Arg Ile Met Gly Tyr Ile Glu
 340 345 350
 Glu Gly Lys Lys Ser Gly Ala Thr Ile Glu Thr Gly Gly Asn Arg Lys
 355 360 365
 Gly Asp Lys Gly Tyr Phe Ile Glu Pro Thr Ile Phe Ser Asn Val Thr
 370 375 380
 Glu Asp Met Lys Ile Gln Gln Glu Glu Ile Phe Gly Pro Val Cys Thr
 385 390 395 400
 Ile Ser Lys Phe Lys Thr Lys Ala Asp Val Ile Lys Ile Gly Asn Asn
 405 410 415
 Thr Thr Tyr Gly Leu Ser Ala Ala Val His Thr Ser Asn Leu Thr Thr
 420 425 430
 Ala Ile Glu Val Ala Asn Ala Leu Arg Ala Gly Thr Val Trp Val Asn
 435 440 445
 Ser Tyr Asn Thr Leu His Trp Gln Leu Pro Phe Gly Gly Tyr Lys Glu
 450 455 460
 Ser Gly Ile Gly Arg Glu Leu Gly Glu Ala Ala Leu Asp Asn Tyr Ile
 465 470 475 480
 Gln Thr Lys Thr Val Ser Ile Arg Leu Gly Asp Val Leu Phe Gly
 485 490 495

<210> 12
 <211> 110
 <212> PRT
 <213> Alternaria alternata

<400> 12
 Met Ser Thr Ser Glu Leu Ala Thr Ser Tyr Ala Ala Leu Ile Leu Ala

1	5	10	15												
Asp	Asp	Gly	Val	Asp	Ile	Thr	Ala	Asp	Lys	Leu	Gln	Ser	Leu	Ile	Lys
			20					25						30	
Ala	Ala	Lys	Ile	Glu	Glu	Val	Glu	Pro	Ile	Trp	Thr	Thr	Leu	Phe	Ala
		35					40					45			
Lys	Ala	Leu	Glu	Gly	Lys	Asp	Val	Lys	Asp	Leu	Leu	Asn	Val	Gly	
		50				55				60					
Ser	Gly	Gly	Gly	Ala	Ala	Pro	Leu	Pro	Glu	Ala	Leu	Leu	Leu	Arg	Trp
		65				70			75					80	
Arg	Ala	Ala	Asp	Ala	Ala	Pro	Ala	Ala	Glu	Glu	Lys	Lys	Glu	Glu	
		85				90				95					
Lys	Glu	Glu	Ser	Asp	Glu	Asp	Met	Gly	Phe	Gly	Leu	Phe	Asp		
		100				105						110			

<210> 13
 <211> 396
 <212> PRT
 <213> Ambrosia artemisiifolia (Short ragweed)

<400>	13														
Met	Gly	Ile	Lys	His	Cys	Cys	Tyr	Ile	Leu	Tyr	Phe	Thr	Leu	Ala	Leu
1				5					10				15		
Val	Thr	Leu	Leu	Gln	Pro	Val	Arg	Ser	Ala	Glu	Asp	Leu	Gln	Glu	Ile
					20			25				30			
Leu	Pro	Val	Asn	Glu	Thr	Arg	Arg	Leu	Thr	Thr	Ser	Gly	Ala	Tyr	Asn
					35			40			45				
Ile	Ile	Asp	Gly	Cys	Trp	Arg	Gly	Lys	Ala	Asp	Trp	Ala	Glu	Asn	Arg
					50			55			60				
Lys	Ala	Leu	Ala	Asp	Cys	Ala	Gln	Gly	Phe	Gly	Lys	Gly	Thr	Val	Gly
					65			70			75			80	
Gly	Lys	Asp	Gly	Asp	Ile	Tyr	Thr	Val	Thr	Ser	Glu	Leu	Asp	Asp	Asp
					85			90			95				
Val	Ala	Asn	Pro	Lys	Glu	Gly	Thr	Leu	Arg	Phe	Gly	Ala	Ala	Gln	Asn
					100			105			110				
Arg	Pro	Leu	Trp	Ile	Ile	Phe	Glu	Arg	Asp	Met	Val	Ile	Arg	Leu	Asp
					115			120			125				
Lys	Glu	Met	Val	Val	Asn	Ser	Asp	Lys	Thr	Ile	Asp	Gly	Arg	Gly	Ala
					130			135			140				
Lys	Val	Glu	Ile	Ile	Asn	Ala	Gly	Phe	Thr	Leu	Asn	Gly	Val	Lys	Asn
					145			150			155			160	
Val	Ile	Ile	His	Asn	Ile	Asn	Met	His	Asp	Val	Lys	Val	Asn	Pro	Gly
					165			170			175				
Gly	Leu	Ile	Lys	Ser	Asn	Asp	Gly	Pro	Ala	Ala	Pro	Arg	Ala	Gly	Ser
					180			185			190				
Asp	Gly	Asp	Ala	Ile	Ser	Ile	Ser	Gly	Ser	Ser	Gln	Ile	Trp	Ile	Asp
					195			200			205				
His	Cys	Ser	Leu	Ser	Lys	Ser	Val	Asp	Gly	Leu	Val	Asp	Ala	Lys	Leu
					210			215			220				
Gly	Thr	Thr	Arg	Leu	Thr	Val	Ser	Asn	Ser	Leu	Phe	Thr	Gln	His	Gln
					225			230			235			240	
Phe	Val	Leu	Leu	Phe	Gly	Ala	Gly	Asp	Glu	Asn	Ile	Glu	Asp	Arg	Gly
					245			250			255				
Met	Leu	Ala	Thr	Val	Ala	Phe	Asn	Thr	Phe	Thr	Asp	Asn	Val	Asp	Gln
					260			265			270				
Arg	Met	Pro	Arg	Cys	Arg	His	Gly	Phe	Phe	Gln	Val	Val	Asn	Asn	Asn
					275			280			285				

Tyr Asp Lys Trp Gly Ser Tyr Ala Ile Gly Gly Ser Ala Ser Pro Thr
 290 295 300
 Ile Leu Ser Gln Gly Asn Arg Phe Cys Ala Pro Asp Glu Arg Ser Lys
 305 310 315 320
 Lys Asn Val Leu Gly Arg His Gly Glu Ala Ala Ala Glu Ser Met Lys
 325 330 335
 Trp Asn Trp Arg Thr Asn Lys Asp Val Leu Glu Asn Gly Ala Ile Phe
 340 345 350
 Val Ala Ser Gly Val Asp Pro Val Leu Thr Pro Glu Gln Ser Ala Gly
 355 360 365
 Met Ile Pro Ala Glu Pro Gly Glu Ser Ala Leu Ser Leu Thr Ser Ser
 370 375 380
 Ala Gly Val Leu Ser Cys Gln Pro Gly Ala Pro Cys
 385 390 395

<210> 14
 <211> 398
 <212> PRT
 <213> Ambrosia artemisiifolia (Short ragweed)

<400> 14
 Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
 1 5 10 15
 Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Val Glu Glu Phe
 20 25 30
 Leu Pro Ser Ala Asn Glu Thr Arg Arg Ser Leu Lys Ala Cys Glu Ala
 35 40 45
 His Asn Ile Ile Asp Lys Cys Trp Arg Cys Lys Ala Asp Trp Ala Asn
 50 55 60
 Asn Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr
 65 70 75 80
 Tyr Gly Gly Lys His Gly Asp Val Tyr Thr Val Thr Ser Asp Lys Asp
 85 90 95
 Asp Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala
 100 105 110
 Gln Asn Arg Pro Leu Trp Ile Ile Phe Lys Arg Asn Met Val Ile His
 115 120 125
 Leu Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg
 130 135 140
 Gly Val Lys Val Asn Ile Val Asn Ala Gly Leu Thr Leu Met Asn Val
 145 150 155 160
 Lys Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Ile Lys Val Cys
 165 170 175
 Pro Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln
 180 185 190
 Gln Ser Asp Gly Asp Ala Ile Asn Val Ala Gly Ser Ser Gln Ile Trp
 195 200 205
 Ile Asp His Cys Ser Leu Ser Lys Ala Ser Asp Gly Leu Leu Asp Ile
 210 215 220
 Thr Leu Gly Ser Ser His Val Thr Val Ser Asn Cys Lys Phe Thr Gln
 225 230 235 240
 His Gln Phe Val Leu Leu Leu Gly Ala Asp Asp Thr His Tyr Gln Asp
 245 250 255
 Lys Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp His Val
 260 265 270
 Asp Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn

275	280	285	
Asn Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly	Gly Ser Ser Ala		
290	295	300	
Pro Thr Ile Leu Ser Gln Gly Asn Arg Phe Phe	Ala Pro Asp Asp Ile		
305	310	315	320
Ile Lys Lys Asn Val Leu Ala Arg Thr Gly Thr	Gly Asn Ala Glu Ser		
325	330	335	
Met Ser Trp Asn Trp Arg Thr Asp Arg Asp	Leu Leu Glu Asn Gly Ala		
340	345	350	
Ile Phe Leu Pro Ser Gly Ser Asp Pro Val	Leu Thr Pro Glu Gln Lys		
355	360	365	
Ala Gly Met Ile Pro Ala Glu Pro Gly Glu Ala	Val Leu Arg Leu Thr		
370	375	380	
Ser Ser Ala Gly Val Leu Ser Cys His Gln Gly	Ala Pro Cys		
385	390	395	

<210> 15
<211> 397
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)

<400> 15			
Met Gly Ile Lys Gln Cys Cys Tyr Ile Leu Tyr Phe	Thr Leu Ala Leu		
1	5	10	15
Val Ala Leu Leu Gln Pro Val Arg Ser Ala Glu	Gly Val Gly Glu Ile		
20	25	30	
Leu Pro Ser Val Asn Glu Thr Arg Ser Leu Gln	Ala Cys Glu Ala Leu		
35	40	45	
Asn Ile Ile Asp Lys Cys Trp Arg Gly Lys Ala Asp	Trp Glu Asn Asn		
50	55	60	
Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly	Phe Ala Lys Gly Thr Tyr		
65	70	75	80
Gly Gly Lys Trp Gly Asp Val Tyr Thr Val	Thr Ser Asn Leu Asp Asp		
85	90	95	
Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg	Phe Ala Ala Gln		
100	105	110	
Asn Arg Pro Leu Trp Ile Ile Phe Lys Asn Asp	Met Val Ile Asn Leu		
115	120	125	
Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr	Ile Asp Gly Arg Gly		
130	135	140	
Val Lys Val Glu Ile Ile Asn Gly Gly Leu Thr	Leu Met Asn Val Lys		
145	150	155	160
Asn Ile Ile Ile His Asn Ile Asn Ile His Asp	Val Lys Val Leu Pro		
165	170	175	
Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro	Ile Leu Arg Gln Ala		
180	185	190	
Ser Asp Gly Asp Thr Ile Asn Val Ala Gly Ser	Ser Gln Ile Trp Ile		
195	200	205	
Asp His Cys Ser Leu Ser Lys Ser Phe Asp Gly	Leu Val Asp Val Thr		
210	215	220	
Leu Gly Ser Thr His Val Thr Ile Ser Asn Cys	Lys Phe Thr Gln Gln		
225	230	235	240
Ser Lys Ala Ile Leu Leu Gly Ala Asp Asp	Thr His Val Gln Asp Lys		
245	250	255	
Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe	Thr Asp Asn Val Asp		
260	265	270	

Gln	Arg	Met	Pro	Arg	Cys	Arg	Phe	Gly	Phe	Phe	Gln	Val	Val	Asn	Asn
275							280					285			
Asn	Tyr	Asp	Arg	Trp	Gly	Thr	Tyr	Ala	Ile	Gly	Gly	Ser	Ser	Ala	Pro
290							295					300			
Thr	Ile	Leu	Cys	Gln	Gly	Asn	Arg	Phe	Leu	Ala	Pro	Asp	Asp	Gln	Ile
305								310			315				320
Lys	Lys	Asn	Val	Leu	Ala	Arg	Thr	Gly	Thr	Gly	Ala	Ala	Glu	Ser	Met
								325		330			335		
Ala	Trp	Asn	Trp	Arg	Ser	Asp	Lys	Asp	Leu	Leu	Glu	Asn	Gly	Ala	Ile
								340		345			350		
Phe	Val	Thr	Ser	Gly	Ser	Asp	Pro	Val	Leu	Thr	Pro	Val	Gln	Ser	Ala
								355		360			365		
Gly	Met	Ile	Pro	Ala	Glu	Pro	Gly	Glu	Ala	Ala	Ile	Lys	Leu	Thr	Ser
								370		375			380		
Ser	Ala	Gly	Val	Phe	Ser	Cys	His	Pro	Gly	Ala	Pro	Cys			
								385		390			395		

<210> 16
<211> 392
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)

<400>	16														
Met	Gly	Ile	Lys	His	Cys	Cys	Tyr	Ile	Leu	Tyr	Phe	Thr	Leu	Ala	Leu
1								5			10			15	
Val	Thr	Leu	Leu	Gln	Pro	Val	Arg	Ser	Ala	Glu	Asp	Leu	Gln	Gln	Ile
								20			25			30	
Leu	Pro	Ser	Ala	Asn	Glu	Thr	Arg	Ser	Leu	Thr	Thr	Cys	Gly	Thr	Tyr
								35			40			45	
Asn	Ile	Ile	Asp	Gly	Cys	Trp	Arg	Gly	Lys	Ala	Asp	Trp	Ala	Glu	Asn
								50			55			60	
Arg	Lys	Ala	Leu	Ala	Asp	Cys	Ala	Gln	Gly	Phe	Ala	Lys	Gly	Thr	Ile
								65			70			75	
Gly	Gly	Lys	Asp	Gly	Asp	Ile	Tyr	Thr	Val	Thr	Ser	Glu	Leu	Asp	Asp
								85			90			95	
Asp	Val	Ala	Asn	Pro	Lys	Glu	Gly	Thr	Leu	Arg	Phe	Gly	Ala	Ala	Gln
								100			105			110	
Asn	Arg	Pro	Leu	Trp	Ile	Ile	Phe	Ala	Arg	Asp	Met	Val	Ile	Arg	Leu
								115			120			125	
Asp	Arg	Glu	Leu	Ala	Ile	Asn	Asn	Asp	Lys	Thr	Ile	Asp	Gly	Arg	Gly
								130			135			140	
Ala	Lys	Val	Glu	Ile	Ile	Asn	Ala	Gly	Phe	Ala	Ile	Tyr	Asn	Val	Lys
								145			150			155	
Asn	Ile	Ile	Ile	His	Asn	Ile	Ile	Met	His	Asp	Ile	Val	Val	Asn	Pro
								165			170			175	
Gly	Gly	Leu	Ile	Lys	Ser	His	Asp	Gly	Pro	Pro	Val	Pro	Arg	Lys	Gly
								180			185			190	
Ser	Asp	Gly	Asp	Ala	Ile	Gly	Ile	Ser	Gly	Gly	Ser	Gln	Ile	Trp	Ile
								195			200			205	
Asp	His	Cys	Ser	Leu	Ser	Lys	Ala	Val	Asp	Gly	Leu	Ile	Asp	Ala	Lys
								210			215			220	
His	Gly	Ser	Thr	His	Phe	Thr	Val	Ser	Asn	Cys	Leu	Phe	Thr	Gln	His
								225			230			235	
Gln	Tyr	Leu	Leu	Leu	Phe	Trp	Asp	Phe	Asp	Glu	Arg	Gly	Met	Leu	Cys
								245			250			255	
Thr	Val	Ala	Phe	Asn	Lys	Phe	Thr	Asp	Asn	Val	Asp	Gln	Arg	Met	Pro

	260	265	270												
Asn	Leu	Arg	His	Gly	Phe	Val	Gln	Val	Val	Asn	Asn	Asn	Tyr	Glu	Arg
		275			280									285	
Trp	Gly	Ser	Tyr	Ala	Leu	Gly	Gly	Ser	Ala	Gly	Pro	Thr	Ile	Leu	Ser
		290			295									300	
Gln	Gly	Asn	Arg	Phe	Leu	Ala	Ser	Asp	Ile	Lys	Lys	Glu	Val	Val	Gly
		305			310					315					320
Arg	Tyr	Gly	Glu	Ser	Ala	Met	Ser	Glu	Ser	Ile	Asn	Trp	Asn	Trp	Arg
										325	330				335
Ser	Tyr	Met	Asp	Val	Phe	Glu	Asn	Gly	Ala	Ile	Phe	Val	Pro	Ser	Gly
										340	345				350
Val	Asp	Pro	Val	Leu	Thr	Pro	Glu	Gln	Asn	Ala	Gly	Met	Ile	Pro	Ala
										355	360				365
Glu	Pro	Gly	Glu	Ala	Val	Leu	Arg	Leu	Thr	Ser	Ser	Ala	Gly	Val	Leu
										370	375				380
Ser	Cys	Gln	Pro	Gly	Ala	Pro	Cys								
										385	390				

<210> 17
<211> 397
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)

	<400> 17														
Met	Gly	Ile	Lys	His	Cys	Cys	Tyr	Ile	Leu	Tyr	Phe	Thr	Leu	Ala	Leu
								1	5	10			15		
Val	Thr	Leu	Val	Gln	Ala	Gly	Arg	Leu	Gly	Glu	Glu	Val	Asp	Ile	Leu
								20	25	30					
Pro	Ser	Pro	Asn	Asp	Thr	Arg	Arg	Ser	Leu	Gln	Gly	Cys	Glu	Ala	His
								35	40	45					
Asn	Ile	Ile	Asp	Lys	Cys	Trp	Arg	Cys	Lys	Pro	Asp	Trp	Ala	Glu	Asn
								50	55	60					
Arg	Gln	Ala	Leu	Gly	Asn	Cys	Ala	Gln	Gly	Phe	Gly	Lys	Ala	Thr	His
								65	70	75			80		
Gly	Gly	Lys	Trp	Gly	Asp	Ile	Tyr	Met	Val	Thr	Ser	Asp	Gln	Asp	Asp
								85	90	95					
Asp	Val	Val	Asn	Pro	Lys	Glu	Gly	Thr	Leu	Arg	Phe	Gly	Ala	Thr	Gln
								100	105	110					
Asp	Arg	Pro	Leu	Trp	Ile	Ile	Phe	Gln	Arg	Asp	Met	Ile	Ile	Tyr	Leu
								115	120	125					
Gln	Gln	Glu	Met	Val	Val	Thr	Ser	Asp	Lys	Thr	Ile	Asp	Gly	Arg	Gly
								130	135	140					
Ala	Lys	Val	Glu	Leu	Val	Tyr	Gly	Gly	Ile	Thr	Leu	Met	Asn	Val	Lys
								145	150	155			160		
Asn	Val	Ile	Ile	His	Asn	Ile	Asp	Ile	His	Asp	Val	Arg	Val	Leu	Pro
								165	170	175					
Gly	Gly	Arg	Ile	Lys	Ser	Asn	Gly	Gly	Pro	Ala	Ile	Pro	Arg	His	Gln
								180	185	190					
Ser	Asp	Gly	Asp	Ala	Ile	His	Val	Thr	Gly	Ser	Ser	Asp	Ile	Trp	Ile
								195	200	205					
Asp	His	Cys	Thr	Leu	Ser	Lys	Ser	Phe	Asp	Gly	Leu	Val	Asp	Val	Asn
								210	215	220					
Trp	Gly	Ser	Thr	Gly	Val	Thr	Ile	Ser	Asn	Cys	Lys	Phe	Thr	His	His
								225	230	235				240	
Glu	Lys	Ala	Val	Leu	Leu	Gly	Ala	Ser	Asp	Thr	His	Phe	Gln	Asp	Leu
								245	250	255					

Lys Met His Val Thr Leu Ala Tyr Asn Ile Phe Thr Asn Thr Val His
260 265 270
Glu Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Ile Val Asn Asn
275 280 285
Phe Tyr Asp Arg Trp Asp Lys Tyr Ala Ile Gly Gly Ser Ser Asn Pro
290 295 300
Thr Ile Leu Ser Gln Gly Asn Lys Phe Val Ala Pro Asp Phe Ile Tyr
305 310 315 320
Lys Lys Asn Val Cys Leu Arg Thr Gly Ala Gln Glu Pro Glu Trp Met
325 330 335
Thr Trp Asn Trp Arg Thr Gln Asn Asp Val Leu Glu Asn Gly Ala Ile
340 345 350
Phe Val Ala Ser Gly Ser Asp Pro Val Leu Thr Ala Glu Gln Asn Ala
355 360 365
Gly Met Met Gln Ala Glu Pro Gly Asp Met Val Pro Gln Leu Thr Met
370 375 380
Asn Ala Gly Val Leu Thr Cys Ser Pro Gly Ala Pro Cys
385 390 395

<210> 18

<211> 101

<212> PRT

<213> Ambrosia artemisiifolia var.elatior(Short ragweed)

<400> 18

Gly Lys Val Tyr Leu Val Gly Gly Pro Glu Leu Gly Gly Trp Lys Leu
1 5 10 15
Gln Ser Asp Pro Arg Ala Tyr Ala Leu Trp Ser Ala Arg Gln Gln Phe
20 25 30
Lys Thr Thr Asp Val Leu Trp Phe Asn Phe Thr Thr Gly Glu Asp Ser
35 40 45
Val Ala Glu Val Trp Arg Glu Glu Ala Tyr His Ala Cys Asp Ile Lys
50 55 60
Asp Pro Ile Arg Leu Glu Pro Gly Gly Pro Asp Arg Phe Thr Leu Leu
65 70 75 80
Thr Pro Gly Ser His Phe Ile Cys Thr Lys Asp Gln Lys Phe Val Ala
85 90 95
Cys Val Pro Gly Arg
100

<210> 19

<211> 45

<212> PRT

<213> Ambrosia artemisiifolia var.elatior(Short ragweed)

<400> 19

Leu Val Pro Cys Ala Trp Ala Gly Asn Val Cys Gly Glu Lys Arg Ala
1 5 10 15
Tyr Cys Cys Ser Asp Pro Gly Arg Tyr Cys Pro Trp Gln Val Val Cys
20 25 30
Tyr Glu Ser Ser Glu Ile Cys Ser Lys Lys Cys Gly Lys
35 40 45

<210> 20

<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)

<400> 20
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe Ile Gly Ser Thr Asp
1 5 10 15
Glu Val Asp Glu Ile Lys Leu Leu Pro Cys Ala Trp Ala Gly Asn Val
20 25 30
Cys Gly Glu Lys Arg Ala Tyr Cys Cys Ser Asp Pro Gly Arg Tyr Cys
35 40 45
Pro Trp Gln Val Val Cys Tyr Glu Ser Ser Glu Ile Cys Ser Gln Lys
50 55 60
Cys Gly Lys Met Arg Met Asn Val Thr Lys Asn Thr Ile
65 70 75

<210> 21
<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)

<400> 21
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe Ile Gly Ser Thr Asn
1 5 10 15
Glu Val Asp Glu Ile Lys Val Met Ala Cys Tyr Ala Ala Gly Ser Ile
20 25 30
Cys Gly Glu Lys Arg Gly Tyr Cys Ser Ser Asp Pro Gly Arg Tyr Cys
35 40 45
Pro Trp Gln Val Val Cys Tyr Glu Ser Arg Lys Ile Cys Ala Lys Asn
50 55 60
Ala Ala Lys Met Arg Met Asn Val Thr Lys Asn Thr Ile
65 70 75

<210> 22
<211> 73
<212> PRT
<213> Ambrosia trifida (Giant ragweed)

<400> 22
Met Lys Asn Ile Phe Met Leu Thr Leu Phe Ile Leu Ile Thr Ser
1 5 10 15
Thr Ile Lys Ala Ile Gly Ser Thr Asn Glu Val Asp Glu Ile Lys Gln
20 25 30
Glu Asp Asp Gly Leu Cys Tyr Glu Gly Thr Asn Cys Gly Lys Val Gly
35 40 45
Lys Tyr Cys Cys Ser Pro Ile Gly Lys Tyr Cys Val Cys Tyr Asp Ser
50 55 60
Lys Ala Ile Cys Asn Lys Asn Cys Thr
65 70

<210> 23
<211> 154
<212> PRT
<213> um graveolens (Celery)

<400> 23

Met Gly Val Gln Thr His Val Leu Glu Leu Thr Ser Ser Val Ser Ala
1 5 10 15
Glu Lys Ile Phe Gln Gly Phe Val Ile Asp Val Asp Thr Val Leu Pro
20 25 30
Lys Ala Ala Pro Gly Ala Tyr Lys Ser Val Glu Ile Lys Gly Asp Gly
35 40 45
Gly Pro Gly Thr Leu Lys Ile Ile Thr Leu Pro Asp Gly Gly Pro Ile
50 55 60
Thr Thr Met Thr Leu Arg Ile Asp Gly Val Asn Lys Glu Ala Leu Thr
65 70 75 80
Phe Asp Tyr Ser Val Ile Asp Gly Asp Ile Leu Leu Gly Phe Ile Glu
85 90 95
Ser Ile Glu Asn His Val Val Leu Val Pro Thr Ala Asp Gly Gly Ser
100 105 110
Ile Cys Lys Thr Thr Ala Ile Phe His Thr Lys Gly Asp Ala Val Val
115 120 125
Pro Glu Glu Asn Ile Lys Tyr Ala Asn Glu Gln Asn Thr Ala Leu Phe
130 135 140
Lys Ala Leu Glu Ala Tyr Leu Ile Ala Asn
145 150

<210> 24
<211> 162
<212> PRT
<213> Apis mellifera (Honeybee)

<400> 24

Gly Ser Leu Phe Leu Leu Leu Ser Thr Ser His Gly Trp Gln Ile
1 5 10 15
Arg Asp Arg Ile Gly Asp Asn Glu Leu Glu Glu Arg Ile Ile Tyr Pro
20 25 30
Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser Gly Pro Asn Glu
35 40 45
Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg Thr His Asp Met
50 55 60
Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His Gly Leu Thr Asn
65 70 75 80
Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp Asp Lys Phe Tyr
85 90 95
Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser Tyr Phe Val Gly
100 105 110
Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr Lys Leu Glu His
115 120 125
Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr
130 135 140
Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg
145 150 155 160
Lys Tyr

<210> 25
<211> 382
<212> PRT

<213> Apis mellifera (Honeybee)

<400> 25
Met Ser Arg Pro Leu Val Ile Thr Glu Gly Met Met Ile Gly Val Leu
1 5 10 15
Leu Met Leu Ala Pro Ile Asn Ala Leu Leu Leu Gly Phe Val Gln Ser
20 25 30
Thr Pro Asp Asn Asn Lys Thr Val Arg Glu Phe Asn Val Tyr Trp Asn
35 40 45
Val Pro Thr Phe Met Cys His Lys Tyr Gly Leu Arg Phe Glu Glu Val
50 55 60
Ser Glu Lys Tyr Gly Ile Leu Gln Asn Trp Met Asp Lys Phe Arg Gly
65 70 75 80
Glu Glu Ile Ala Ile Leu Tyr Asp Pro Gly Met Phe Pro Ala Leu Leu
85 90 95
Lys Asp Pro Asn Gly Asn Val Val Ala Arg Asn Gly Gly Val Pro Gln
100 105 110
Leu Gly Asn Leu Thr Lys His Leu Gln Val Phe Arg Asp His Leu Ile
115 120 125
Asn Gln Ile Pro Asp Lys Ser Phe Pro Gly Val Gly Val Ile Asp Phe
130 135 140
Glu Ser Trp Arg Pro Ile Phe Arg Gln Asn Trp Ala Ser Leu Gln Pro
145 150 155 160
Tyr Lys Lys Leu Ser Val Glu Val Val Arg Arg Glu His Pro Phe Trp
165 170 175
Asp Asp Gln Arg Val Glu Gln Glu Ala Lys Arg Arg Phe Glu Lys Tyr
180 185 190
Gly Gln Leu Phe Met Glu Glu Thr Leu Lys Ala Ala Lys Arg Met Arg
195 200 205
Pro Ala Ala Asn Trp Gly Tyr Tyr Ala Tyr Pro Tyr Cys Tyr Asn Leu
210 215 220
Thr Pro Asn Gln Pro Ser Ala Gln Cys Glu Ala Thr Thr Met Gln Glu
225 230 235 240
Asn Asp Lys Met Ser Trp Leu Phe Glu Ser Glu Asp Val Leu Leu Pro
245 250 255
Ser Val Tyr Leu Arg Trp Asn Leu Thr Ser Gly Glu Arg Val Gly Leu
260 265 270
Val Gly Gly Arg Val Lys Glu Ala Leu Arg Ile Ala Arg Gln Met Thr
275 280 285
Thr Ser Arg Lys Lys Val Leu Pro Tyr Tyr Trp Tyr Lys Tyr Gln Asp
290 295 300
Arg Arg Asp Thr Asp Leu Ser Arg Ala Asp Leu Glu Ala Thr Leu Arg
305 310 315 320
Lys Ile Thr Asp Leu Gly Ala Asp Gly Phe Ile Ile Trp Gly Ser Ser
325 330 335
Asp Asp Ile Asn Thr Lys Ala Lys Cys Leu Gln Phe Arg Glu Tyr Leu
340 345 350
Asn Asn Glu Leu Gly Pro Ala Val Lys Arg Ile Ala Leu Asn Asn Asn
355 360 365
Ala Asn Asp Arg Leu Thr Val Asp Val Ser Val Asp Gln Val
370 375 380

<210> 26

<211> 70

<212> PRT

<213> Apis mellifera(Honeybee)Apis cerana(Ind. honeybee)

<400> 26
 Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
 1 5 10 15
 Ser Tyr Ile Tyr Ala Ala Pro Glu Pro Glu Pro Ala Pro Glu Pro Glu
 20 25 30
 Ala Glu Ala Asp Ala Glu Ala Asp Pro Glu Ala Gly Ile Gly Ala Val
 35 40 45
 Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu Ile Ser Trp Ile Lys
 50 55 60
 Arg Lys Arg Gln Gln Gly
 65 70

<210> 27
 <211> 614
 <212> PRT
 <213> Arachis hypogaea (Peanut)

<400> 27
 Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Leu Gly Ile Leu Val
 1 5 10 15
 Leu Ala Ser Val Ser Ala Thr Gln Ala Lys Ser Pro Tyr Arg Lys Thr
 20 25 30
 Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln Glu Pro
 35 40 45
 Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys Leu Glu
 50 55 60
 Tyr Asp Pro Arg Cys Val Tyr Asp Thr Gly Ala Thr Asn Gln Arg His
 65 70 75 80
 Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro Gly Asp Tyr Asp Asp
 85 90 95
 Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly Arg Trp Gly Pro Ala
 100 105 110
 Glu Pro Arg Glu Arg Glu Glu Asp Trp Arg Gln Pro Arg Glu
 115 120 125
 Asp Trp Arg Arg Pro Ser His Gln Gln Pro Arg Lys Ile Arg Pro Glu
 130 135 140
 Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr Pro Gly Ser Glu Val Arg
 145 150 155 160
 Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr Phe Pro Ser Arg Arg Phe
 165 170 175
 Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg Ile Arg Val Leu Gln Arg
 180 185 190
 Phe Asp Gln Arg Ser Lys Gln Phe Gln Asn Leu Gln Asn His Arg Ile
 195 200 205
 Val Gln Ile Glu Ala Arg Pro Asn Thr Leu Val Leu Pro Lys His Ala
 210 215 220
 Asp Ala Asp Asn Ile Leu Val Ile Gln Gln Gly Gln Ala Thr Val Thr
 225 230 235 240
 Val Ala Asn Gly Asn Asn Arg Lys Ser Phe Asn Leu Asp Glu Gly His
 245 250 255
 Ala Leu Arg Ile Pro Ser Gly Phe Ile Ser Tyr Ile Leu Asn Arg His
 260 265 270
 Asp Asn Gln Asn Leu Arg Val Ala Lys Ile Ser Met Pro Val Asn Thr
 275 280 285
 Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala Ser Ser Arg Asp Gln Ser

290	295	300													
Ser	Tyr	Leu	Gln	Gly	Phe	Ser	Arg	Asn	Thr	Leu	Glu	Ala	Ala	Phe	Asn
305				310						315					320
Ala	Glu	Phe	Asn	Glu	Ile	Arg	Arg	Val	Leu	Leu	Glu	Glu	Asn	Ala	Gly
				325					330					335	
Gly	Glu	Gln	Glu	Glu	Arg	Gly	Gln	Arg	Arg	Arg	Ser	Thr	Arg	Ser	Ser
				340				345			350				
Asp	Asn	Glu	Gly	Val	Ile	Val	Lys	Val	Ser	Lys	Glu	His	Val	Gln	Glu
				355			360			365					
Leu	Thr	Lys	His	Ala	Lys	Ser	Val	Ser	Lys	Gly	Ser	Glu	Glu	Glu	
				370			375			380					
Asp	Ile	Thr	Asn	Pro	Ile	Asn	Leu	Arg	Asp	Gly	Glu	Pro	Asp	Leu	Ser
385					390				395					400	
Asn	Asn	Phe	Gly	Arg	Leu	Phe	Glu	Val	Lys	Pro	Asp	Lys	Lys	Asn	Pro
				405				410					415		
Gln	Leu	Gln	Asp	Leu	Asp	Met	Met	Leu	Thr	Cys	Val	Glu	Ile	Lys	Glu
				420				425			430				
Gly	Ala	Leu	Met	Leu	Pro	His	Phe	Asn	Ser	Lys	Ala	Met	Val	Ile	Val
				435			440			445					
Val	Val	Asn	Lys	Gly	Thr	Gly	Asn	Leu	Glu	Leu	Val	Ala	Val	Arg	Lys
				450			455			460					
Glu	Gln	Gln	Gln	Arg	Gly	Arg	Arg	Glu	Gln	Glu	Trp	Glu	Glu	Glu	
465					470				475					480	
Glu	Asp	Glu	Glu	Glu	Gly	Ser	Asn	Arg	Glu	Val	Arg	Arg	Tyr	Thr	
				485				490			495				
Ala	Arg	Leu	Lys	Glu	Gly	Asp	Val	Phe	Ile	Met	Pro	Ala	Ala	His	Pro
				500				505			510				
Val	Ala	Ile	Asn	Ala	Ser	Ser	Glu	Leu	His	Leu	Leu	Gly	Phe	Gly	Ile
				515				520			525				
Asn	Ala	Glu	Asn	Asn	His	Arg	Ile	Phe	Leu	Ala	Gly	Asp	Lys	Asp	Asn
				530			535			540					
Val	Ile	Asp	Gln	Ile	Glu	Lys	Gln	Ala	Lys	Asp	Leu	Ala	Phe	Pro	Gly
545					550				555					560	
Ser	Gly	Glu	Gln	Val	Glu	Lys	Leu	Ile	Lys	Asn	Gln	Arg	Glu	Ser	His
				565				570			575				
Phe	Val	Ser	Ala	Arg	Pro	Gln	Ser	Gln	Ser	Pro	Ser	Ser	Pro	Glu	Lys
				580				585			590				
Glu	Asp	Gln	Glu	Glu	Asn	Gln	Gly	Gly	Lys	Gly	Pro	Leu	Leu	Ser	
				595			600			605					
Ile	Leu	Lys	Ala	Phe	Asn										
				610											

<210> 28

<211> 626

<212> PRT

<213> Arachis hypogaea (Peanut)

<400> 28

Met	Arg	Gly	Arg	Val	Ser	Pro	Leu	Met	Leu	Leu	Gly	Ile	Leu	Val	
1				5				10				15			
Leu	Ala	Ser	Val	Ser	Ala	Thr	His	Ala	Lys	Ser	Ser	Pro	Tyr	Gln	Lys
				20				25				30			
Lys	Thr	Glu	Asn	Pro	Cys	Ala	Gln	Arg	Cys	Leu	Gln	Ser	Cys	Gln	Gln
				35				40			45				
Glu	Pro	Asp	Asp	Leu	Lys	Gln	Lys	Ala	Cys	Glu	Ser	Arg	Cys	Thr	Lys
				50				55			60				

Leu Glu Tyr Asp Pro Arg Cys Val Tyr Asp Pro Arg Gly His Thr Gly
 65 70 75 80
 Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln
 85 90 95
 Pro Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly
 100 105 110
 Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp
 115 120 125
 Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser His Gln Gln Pro
 130 135 140
 Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr
 145 150 155 160
 Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr
 165 170 175
 Phe Pro Ser Arg Arg Phe Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg
 180 185 190
 Ile Arg Val Leu Gln Arg Phe Asp Gln Arg Ser Arg Gln Phe Gln Asn
 195 200 205
 Leu Gln Asn His Arg Ile Val Gln Ile Glu Ala Lys Pro Asn Thr Leu
 210 215 220
 Val Leu Pro Lys His Ala Asp Ala Asp Asn Ile Leu Val Ile Gln Gln
 225 230 235 240
 Gly Gln Ala Thr Val Ala Asn Gly Asn Asn Arg Lys Ser Phe
 245 250 255
 Asn Leu Asp Glu Gly His Ala Leu Arg Ile Pro Ser Gly Phe Ile Ser
 260 265 270
 Tyr Ile Leu Asn Arg His Asp Asn Gln Asn Leu Arg Val Ala Lys Ile
 275 280 285
 Ser Met Pro Val Asn Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala
 290 295 300
 Ser Ser Arg Asp Gln Ser Ser Tyr Leu Gln Gly Phe Ser Arg Asn Thr
 305 310 315 320
 Leu Glu Ala Ala Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg Val Leu
 325 330 335
 Leu Glu Glu Asn Ala Gly Glu Gln Glu Glu Arg Gly Gln Arg Arg
 340 345 350
 Trp Ser Thr Arg Ser Ser Glu Asn Asn Glu Gly Val Ile Val Lys Val
 355 360 365
 Ser Lys Glu His Val Glu Leu Thr Lys His Ala Lys Ser Val Ser
 370 375 380
 Lys Lys Gly Ser Glu Glu Glu Gly Asp Ile Thr Asn Pro Ile Asn Leu
 385 390 395 400
 Arg Glu Gly Glu Pro Asp Leu Ser Asn Asn Phe Gly Lys Leu Phe Glu
 405 410 415
 Val Lys Pro Asp Lys Lys Asn Pro Gln Leu Gln Asp Leu Asp Met Met
 420 425 430
 Leu Thr Cys Val Glu Ile Lys Glu Gly Ala Leu Met Leu Pro His Phe
 435 440 445
 Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn
 450 455 460
 Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Arg Gly Arg Arg
 465 470 475 480
 Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Gly Ser Asn Arg Glu
 485 490 495
 Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met
 500 505 510
 Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu

515	520	525
Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala		
530	535	540
Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp		
545	550	555
Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn		
565	570	575
Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser Gln Ser Gln		
580	585	590
Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp Gln Glu		
595	600	605
Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser Ile Leu Lys Ala		
610	615	620
Phe Asn		
625		

<210> 29
<211> 131
<212> PRT
<213> *Arabidopsis thaliana* (Mouse-ear cress)

<400> 29		
Met Ser Trp Gln Ser Tyr Val Asp Asp His Leu Met Cys Asp Val Glu		
1	5	10
Gly Asn His Leu Thr Ala Ala Ala Ile Leu Gly Gln Asp Gly Ser Val		
20	25	30
Trp Ala Gln Ser Ala Lys Phe Pro Gln Leu Lys Pro Gln Glu Ile Asp		
35	40	45
Gly Ile Lys Lys Asp Phe Glu Glu Pro Gly Phe Leu Ala Pro Thr Gly		
50	55	60
Leu Phe Leu Gly Gly Lys Tyr Met Val Ile Gln Gly Glu Gln Gly		
65	70	75
Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Ile Lys Lys		
85	90	95
Thr Asn Gln Ala Leu Val Phe Gly Phe Tyr Asp Glu Pro Met Thr Gly		
100	105	110
Gly Gln Cys Asn Leu Val Val Glu Arg Leu Gly Asp Tyr Leu Ile Glu		
115	120	125
Ser Glu Leu		
130		

<210> 30
<211> 176
<212> PRT
<213> *Aspergillus restrictus* *Aspergillus fumigatus*

<400> 30		
Met Val Ala Ile Lys Asn Leu Phe Leu Leu Ala Ala Thr Ala Val Ser		
1	5	10
Val Leu Ala Ala Pro Ser Pro Leu Asp Ala Arg Ala Thr Trp Thr Cys		
20	25	30
Ile Asn Gln Gln Leu Asn Pro Lys Thr Asn Lys Trp Glu Asp Lys Arg		
35	40	45
Leu Leu Tyr Ser Gln Ala Lys Ala Glu Ser Asn Ser His His Ala Pro		
50	55	60

Leu Ser Asp Gly Lys Thr Gly Ser Ser Tyr Pro His Trp Phe Thr Asn
 65 70 75 80
 Gly Tyr Asp Gly Asn Gly Lys Leu Ile Lys Gly Arg Thr Pro Ile Lys
 85 90 95
 Phe Gly Lys Ala Asp Cys Asp Arg Pro Pro Lys His Ser Gln Asn Gly
 100 105 110
 Met Gly Lys Asp Asp His Tyr Leu Leu Glu Phe Pro Thr Phe Pro Asp
 115 120 125
 Gly His Asp Tyr Lys Phe Asp Ser Lys Lys Pro Lys Glu Asp Pro Gly
 130 135 140
 Pro Ala Arg Val Ile Tyr Thr Tyr Pro Asn Lys Val Phe Cys Gly Ile
 145 150 155 160
 Val Ala His Gln Arg Gly Asn Gln Gly Asp Leu Arg Leu Cys Ser His
 165 170 175

<210> 31
 <211> 310
 <212> PRT
 <213> Aspergillus fumigatus (Sartorya fumigata)

<400> 31
 Met Ala Ala Leu Leu Arg Leu Ala Val Leu Leu Pro Leu Ala Ala Pro
 1 5 10 15
 Leu Val Ala Thr Leu Pro Thr Ser Pro Val Pro Ile Ala Arg Ala
 20 25 30
 Thr Pro His Glu Pro Val Phe Phe Ser Trp Asp Ala Gly Ala Val Thr
 35 40 45
 Ser Phe Pro Ile His Ser Ser Cys Asn Ala Thr Gln Arg Arg Gln Ile
 50 55 60
 Glu Ala Gly Leu Asn Glu Ala Val Glu Leu Ala Arg His Ala Lys Ala
 65 70 75 80
 His Ile Leu Arg Trp Gly Asn Glu Ser Glu Ile Tyr Arg Lys Tyr Phe
 85 90 95
 Gly Asn Arg Pro Thr Met Glu Ala Val Gly Ala Tyr Asp Val Ile Val
 100 105 110
 Asn Gly Asp Lys Ala Asn Val Leu Phe Arg Cys Asp Asn Pro Asp Gly
 115 120 125
 Asn Cys Ala Leu Glu Gly Trp Gly Gly His Trp Arg Gly Ala Asn Ala
 130 135 140
 Thr Ser Glu Thr Val Ile Cys Asp Arg Ser Tyr Thr Arg Arg Trp
 145 150 155 160
 Leu Val Ser Met Cys Ser Gln Gly Tyr Thr Val Ala Gly Ser Glu Thr
 165 170 175
 Asn Thr Phe Trp Ala Ser Asp Leu Met His Arg Leu Tyr His Val Pro
 180 185 190
 Ala Val Gly Gln Gly Trp Val Asp His Phe Ala Asp Gly Tyr Asp Glu
 195 200 205
 Val Ile Ala Leu Ala Lys Ser Asn Gly Thr Glu Ser Thr His Asp Ser
 210 215 220
 Glu Ala Phe Glu Tyr Phe Ala Leu Glu Ala Tyr Ala Phe Asp Ile Ala
 225 230 235 240
 Ala Pro Gly Val Gly Cys Ala Gly Glu Ser His Gly Pro Asp Gln Gly
 245 250 255
 His Asp Thr Gly Ser Ala Ser Ala Pro Ala Ser Thr Ser Thr Ser Ser
 260 265 270
 Ser Ser Ser Gly Ser Gly Ala Thr Thr Pro Thr Asp Ser

	275	280	285
Pro Ser Ala Thr Ile Asp Val Pro Ser Asn Cys His Thr His Glu Gly			
290	295	300	
Gly Gln Leu His Cys Thr			
305	310		

<210> 32
<211> 168
<212> PRT
<213> Aspergillus fumigatus (Sartorya fumigata)

<400> 32			
Met Ser Gly Leu Lys Ala Gly Asp Ser Phe Pro Ser Asp Val Val Phe			
1	5	10	15
Ser Tyr Ile Pro Trp Ser Glu Asp Lys Gly Glu Ile Thr Ala Cys Gly			
20	25	30	
Ile Pro Ile Asn Tyr Asn Ala Ser Lys Glu Trp Ala Asp Lys Lys Val			
35	40	45	
Ile Leu Phe Ala Leu Pro Gly Ala Phe Thr Pro Val Cys Ser Ala Arg			
50	55	60	
His Val Pro Glu Tyr Ile Glu Lys Leu Pro Glu Ile Arg Ala Lys Gly			
65	70	75	80
Val Asp Val Val Ala Val Leu Ala Tyr Asn Asp Ala Tyr Val Met Ser			
85	90	95	
Ala Trp Gly Lys Ala Asn Gln Val Thr Gly Asp Asp Ile Leu Phe Leu			
100	105	110	
Ser Asp Pro Asp Ala Arg Phe Ser Lys Ser Ile Gly Trp Ala Asp Glu			
115	120	125	
Glu Gly Arg Thr Lys Arg Tyr Ala Leu Val Ile Asp His Gly Lys Ile			
130	135	140	
Thr Tyr Ala Ala Leu Glu Pro Ala Lys Asn His Leu Glu Phe Ser Ser			
145	150	155	160
Ala Glu Thr Val Leu Lys His Leu			
165			

<210> 33
<211> 152
<212> PRT
<213> Aspergillus fumigatus (Sartorya fumigata)

<400> 33			
Met Lys Phe Thr Thr Pro Ile Ser Leu Ile Ser Leu Phe Val Ser Ser			
1	5	10	15
Ala Leu Ala Ala Pro Thr Pro Glu Asn Glu Ala Arg Asp Ala Ile Pro			
20	25	30	
Val Ser Val Ser Tyr Asp Pro Arg Tyr Asp Asn Ala Gly Thr Ser Met			
35	40	45	
Asn Asp Val Ser Cys Ser Asn Gly Val Asn Gly Leu Val Thr Lys Trp			
50	55	60	
Pro Thr Phe Gly Ser Val Pro Gly Phe Ala Arg Ile Gly Gly Ala Pro			
65	70	75	80
Thr Ile Pro Gly Trp Asn Ser Pro Asn Cys Gly Lys Cys Tyr Lys Leu			
85	90	95	
Gln Tyr Glu Gln Asn Thr Ile Tyr Val Thr Ala Ile Asp Ala Ala Pro			
100	105	110	

Gly Gly Phe Asn Ile Ala Thr Ser Ala Met Asp Gln Leu Thr Asn Gly
115 120 125
Met Ala Val Glu Leu Gly Arg Val Gln Ala Thr Tyr Glu Ala Asp
130 135 140
Pro Ser His Cys Ala Ser Gly Val
145 150

<210> 34
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 34
Gly Val Phe Asn Tyr Glu Thr Glu Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Ser Val Ile Glu Gly Pro Ile Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 35
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 35
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Thr Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
85 90 95
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp Gln Glu Met

115	120	125
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu		
130	135	140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn		
145	150	155

<210> 36
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 36			
Gly Val Phe Asn Tyr Glu Ile Glu Thr Thr Ser Val Ile Pro Ala Ala			
1	5	10	15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Val Pro Lys			
20	25	30	
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly			
35	40	45	
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe			
50	55	60	
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys			
65	70	75	80
Tyr Asn Tyr Ser Val Ile Glu Gly Pro Val Gly Asp Thr Leu Glu			
85	90	95	
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys			
100	105	110	
Val Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asn His Glu Val			
115	120	125	
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu			
130	135	140	
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn			
145	150	155	

<210> 37
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 37			
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala			
1	5	10	15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys			
20	25	30	
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly			
35	40	45	
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Ile Pro Phe			
50	55	60	
Lys Tyr Val Lys Gly Arg Val Asp Glu Val Asp His Thr Asn Phe Lys			
65	70	75	80
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu			
85	90	95	
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser			
100	105	110	
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val			
115	120	125	

Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
 130 135 140
 Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
 145 150 155

<210> 38
 <211> 159
 <212> PRT
 <213> Betula verrucosa (White birch) (Betula pendula)

<400> 38
 Gly Val Phe Asn Tyr Glu Ile Glu Ala Thr Ser Val Ile Pro Ala Ala
 1 5 10 15
 Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
 20 25 30
 Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
 35 40 45
 Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
 50 55 60
 Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
 65 70 75 80
 Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
 85 90 95
 Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser
 100 105 110
 Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
 115 120 125
 Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
 130 135 140
 Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
 145 150 155

<210> 39
 <211> 159
 <212> PRT
 <213> Betula verrucosa (White birch) (Betula pendula)

<400> 39
 Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
 1 5 10 15
 Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Asn Leu Ile Pro Lys
 20 25 30
 Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
 35 40 45
 Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
 50 55 60
 Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
 65 70 75 80
 Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
 85 90 95
 Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys
 100 105 110
 Val Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asn His Glu Val
 115 120 125
 Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu

130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 40
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 40
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Ser
100 105 110
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125
Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 41
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 41
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Thr Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
85 90 95
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Met
115 120 125
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
130 135 140

Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 42
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 42
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Met Phe Lys Ala Phe Ile Leu Asp Gly Asp Lys Leu Val Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys
100 105 110
Val Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asn His Glu Val
115 120 125
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 43
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 43
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
85 90 95
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Met
115 120 125
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn

145

150

155

<210> 44
<211> 133
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 44
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Asp Ile Asp
1 5 10 15
Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly
20 25 30
Ser Val Trp Ala Gln Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu
35 40 45
Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro
50 55 60
Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val Ile Gln Gly Glu
65 70 75 80
Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile
85 90 95
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val
100 105 110
Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
115 120 125
Ile Asp Gln Gly Leu
130

<210> 45
<211> 205
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 45
Met Pro Cys Ser Thr Glu Ala Met Glu Lys Ala Gly His Gly His Ala
1 5 10 15
Ser Thr Pro Arg Lys Arg Ser Leu Ser Asn Ser Ser Phe Arg Leu Arg
20 25 30
Ser Glu Ser Leu Asn Thr Leu Arg Leu Arg Arg Ile Phe Asp Leu Phe
35 40 45
Asp Lys Asn Ser Asp Gly Ile Ile Thr Val Asp Glu Leu Ser Arg Ala
50 55 60
Leu Asn Leu Leu Gly Leu Glu Thr Asp Leu Ser Glu Leu Glu Ser Thr
65 70 75 80
Val Lys Ser Phe Thr Arg Glu Gly Asn Ile Gly Leu Gln Phe Glu Asp
85 90 95
Phe Ile Ser Leu His Gln Ser Leu Asn Asp Ser Tyr Phe Ala Tyr Gly
100 105 110
Gly Glu Asp Glu Asp Asp Asn Glu Glu Asp Met Arg Lys Ser Ile Leu
115 120 125
Ser Gln Glu Glu Ala Asp Ser Phe Gly Gly Phe Lys Val Phe Asp Glu
130 135 140
Asp Gly Asp Gly Tyr Ile Ser Ala Arg Glu Leu Gln Met Val Leu Gly
145 150 155 160
Lys Leu Gly Phe Ser Glu Gly Ser Glu Ile Asp Arg Val Glu Lys Met
165 170 175

Ile	Val	Ser	Val	Asp	Ser	Asn	Arg	Asp	Gly	Arg	Val	Asp	Phe	Phe	Glu
180						185							190		
Phe	Lys	Asp	Met	Met	Arg	Ser	Val	Leu	Val	Arg	Ser	Ser			
195							200					205			

<210> 46
<211> 352
<212> PRT
<213> Blattella germanica (German cockroach)

<400> 46															
Met	Ile	Gly	Leu	Lys	Leu	Val	Thr	Val	Leu	Phe	Ala	Val	Ala	Thr	Ile
1		5				10								15	
Thr	His	Ala	Ala	Glu	Leu	Gln	Arg	Val	Pro	Leu	Tyr	Lys	Leu	Val	His
		20				25							30		
Val	Phe	Ile	Asn	Thr	Gln	Tyr	Ala	Gly	Ile	Thr	Lys	Ile	Gly	Asn	Gln
		35				40						45			
Asn	Phe	Leu	Thr	Val	Phe	Asp	Ser	Thr	Ser	Cys	Asn	Val	Val	Val	Ala
		50				55					60				
Ser	Gln	Glu	Cys	Val	Gly	Gly	Ala	Cys	Val	Cys	Pro	Asn	Leu	Gln	Lys
		65			70					75			80		
Tyr	Glu	Lys	Leu	Lys	Pro	Lys	Tyr	Ile	Ser	Asp	Gly	Asn	Val	Gln	Val
			85				90					95			
Lys	Phe	Phe	Asp	Thr	Gly	Ser	Ala	Val	Gly	Arg	Gly	Ile	Glu	Asp	Ser
		100				105						110			
Leu	Thr	Ile	Ser	Asn	Leu	Thr	Thr	Ser	Gln	Gln	Asp	Ile	Val	Leu	Ala
		115				120					125				
Asp	Glu	Leu	Ser	Gln	Glu	Val	Cys	Ile	Leu	Ser	Ala	Asp	Val	Val	Val
		130				135					140				
Gly	Ile	Ala	Ala	Pro	Gly	Cys	Pro	Asn	Ala	Leu	Lys	Gly	Lys	Thr	Val
		145				150					155			160	
Leu	Glu	Asn	Phe	Val	Glu	Glu	Asn	Leu	Ile	Ala	Pro	Val	Phe	Ser	Ile
			165				170					175			
His	His	Ala	Arg	Phe	Gln	Asp	Gly	Glu	His	Phe	Gly	Glu	Ile	Ile	Phe
			180				185					190			
Gly	Gly	Ser	Asp	Trp	Lys	Tyr	Val	Asp	Gly	Glu	Phe	Thr	Tyr	Val	Pro
		195				200					205				
Leu	Val	Gly	Asp	Asp	Ser	Trp	Lys	Phe	Arg	Leu	Asp	Gly	Val	Lys	Ile
		210				215					220				
Gly	Asp	Thr	Thr	Val	Ala	Pro	Ala	Gly	Thr	Gln	Ala	Ile	Ile	Asp	Thr
		225				230					235			240	
Ser	Lys	Ala	Ile	Ile	Val	Gly	Pro	Lys	Ala	Tyr	Val	Asn	Pro	Ile	Asn
			245					250					255		
Glu	Ala	Ile	Gly	Cys	Val	Val	Glu	Lys	Thr	Thr	Thr	Arg	Arg	Ile	Cys
			260				265					270			
Lys	Leu	Asp	Cys	Ser	Lys	Ile	Pro	Ser	Leu	Pro	Asp	Val	Thr	Phe	Val
		275				280					285				
Ile	Asn	Gly	Arg	Asn	Phe	Asn	Ile	Ser	Ser	Gln	Tyr	Tyr	Ile	Gln	Gln
		290				295					300				
Asn	Gly	Asn	Leu	Cys	Tyr	Ser	Gly	Phe	Gln	Pro	Cys	Gly	His	Ser	Asp
		305				310					315			320	
His	Phe	Phe	Ile	Gly	Asp	Phe	Phe	Val	Asp	His	Tyr	Tyr	Ser	Glu	Phe
			325				330					335			
Asn	Trp	Glu	Asn	Lys	Thr	Met	Gly	Phe	Gly	Arg	Ser	Val	Glu	Ser	Val
			340				345					350			

<210> 47
<211> 182
<212> PRT
<213> Blattella germanica (German cockroach)

<400> 47

Ala	Val	Leu	Ala	Leu	Cys	Ala	Thr	Asp	Thr	Leu	Ala	Asn	Glu	Asp	Cys
1					5					10				15	
Phe	Arg	His	Glu	Ser	Leu	Val	Pro	Asn	Leu	Asp	Tyr	Glu	Arg	Phe	Arg
					20					25				30	
Gly	Ser	Trp	Ile	Ile	Ala	Ala	Gly	Thr	Ser	Glu	Ala	Leu	Thr	Gln	Tyr
					35					40				45	
Lys	Cys	Trp	Ile	Asp	Arg	Phe	Ser	Tyr	Asp	Asp	Ala	Leu	Val	Ser	Lys
					50					55				60	
Tyr	Thr	Asp	Ser	Gln	Gly	Lys	Asn	Arg	Thr	Thr	Ile	Arg	Gly	Arg	Thr
					65					70				75	
Lys	Phe	Glu	Gly	Asn	Lys	Phe	Thr	Ile	Asp	Tyr	Asn	Asp	Lys	Gly	Lys
					85					90				95	
Ala	Phe	Ser	Ala	Pro	Tyr	Ser	Val	Leu	Ala	Thr	Asp	Tyr	Glu	Asn	Tyr
					100					105				110	
Ala	Ile	Val	Glu	Gly	Cys	Pro	Ala	Ala	Ala	Asn	Gly	His	Val	Ile	Tyr
					115					120				125	
Val	Gln	Ile	Arg	Phe	Ser	Val	Arg	Arg	Phe	His	Pro	Lys	Leu	Gly	Asp
					130					135				140	
Lys	Glu	Met	Ile	Gln	His	Tyr	Thr	Leu	Asp	Gln	Val	Asn	Gln	His	Lys
					145					150				155	
Lys	Ala	Ile	Glu	Glu	Asp	Leu	Lys	His	Phe	Asn	Leu	Lys	Tyr	Glu	Asp
					165					170				175	
Leu	His	Ser	Thr	Cys	His										
					180										

<210> 48
<211> 203
<212> PRT
<213> Blattella germanica (German cockroach)

<400> 48

Ala	Pro	Ser	Tyr	Lys	Leu	Thr	Tyr	Cys	Pro	Val	Lys	Ala	Leu	Gly	Glu
1					5					10				15	
Pro	Ile	Arg	Phe	Leu	Leu	Ser	Tyr	Gly	Glu	Lys	Asp	Phe	Glu	Asp	Tyr
					20					25				30	
Arg	Phe	Gln	Glu	Gly	Asp	Trp	Pro	Asn	Leu	Lys	Pro	Ser	Met	Pro	Phe
					35					40				45	
Gly	Lys	Thr	Pro	Val	Leu	Glu	Ile	Asp	Gly	Lys	Gln	Thr	His	Gln	Ser
					50					55				60	
Val	Ala	Ile	Ser	Arg	Tyr	Leu	Gly	Lys	Gln	Phe	Gly	Leu	Ser	Gly	Lys
					65					70				75	
Asp	Asp	Trp	Glu	Asn	Leu	Glu	Ile	Asp	Met	Ile	Val	Asp	Thr	Ile	Ser
					85					90				95	
Asp	Phe	Arg	Ala	Ala	Ile	Ala	Asn	Tyr	His	Tyr	Asp	Ala	Asp	Glu	Asn
					100					105				110	
Ser	Lys	Gln	Lys	Lys	Trp	Asp	Pro	Leu	Lys	Lys	Glu	Thr	Ile	Pro	Tyr
					115					120				125	
Tyr	Thr	Lys	Lys	Phe	Asp	Glu	Val	Val	Lys	Ala	Asn	Gly	Gly	Tyr	Leu
					130					135				140	

Ala Ala Gly Lys Leu Thr Trp Ala Asp Phe Tyr Phe Val Ala Ile Leu
145 150 155 160
Asp Tyr Leu Asn His Met Ala Lys Glu Asp Leu Val Ala Asn Gln Pro
165 170 175
Asn Leu Lys Ala Leu Arg Glu Lys Val Leu Gly Leu Pro Ala Ile Lys
180 185 190
Ala Trp Val Ala Lys Arg Pro Pro Thr Asp Leu
195 200

<210> 49
<211> 144
<212> PRT
<213> Blomia tropicalis (Mite)

<400> 49
Met Lys Ser Val Leu Ile Phe Leu Val Ala Ile Ala Leu Phe Ser Ala
1 5 10 15
Asn Ile Val Ser Ala Asp Glu Gln Thr Thr Arg Gly Arg His Thr Glu
20 25 30
Pro Asp Asp His His Glu Lys Pro Thr Thr Gln Cys Thr His Glu Glu
35 40 45
Thr Thr Ser Thr Gln His His Glu Glu Val Val Thr Thr Gln Thr
50 55 60
Pro His His Glu Glu Lys Thr Thr Glu Glu Thr His His Ser Asp
65 70 75 80
Asp Leu Ile Val His Glu Gly Gly Lys Thr Tyr His Val Val Cys His
85 90 95
Glu Glu Gly Pro Ile His Ile Gln Glu Met Cys Asn Lys Tyr Ile Ile
100 105 110
Cys Ser Lys Ser Gly Ser Leu Trp Tyr Ile Thr Val Met Pro Cys Ser
115 120 125
Ile Gly Thr Lys Phe Asp Pro Ile Ser Arg Asn Cys Val Leu Asp Asn
130 135 140

<210> 50
<211> 172
<212> PRT
<213> Bos taurus (Bovine)

<400> 50
Met Lys Ala Val Phe Leu Thr Leu Leu Phe Gly Leu Val Cys Thr Ala
1 5 10 15
Gln Glu Thr Pro Ala Glu Ile Asp Pro Ser Lys Ile Pro Gly Glu Trp
20 25 30
Arg Ile Ile Tyr Ala Ala Ala Asp Asn Lys Asp Lys Ile Val Glu Gly
35 40 45
Gly Pro Leu Arg Asn Tyr Tyr Arg Arg Ile Glu Cys Ile Asn Asp Cys
50 55 60
Glu Ser Leu Ser Ile Thr Phe Tyr Leu Lys Asp Gln Gly Thr Cys Leu
65 70 75 80
Leu Leu Thr Glu Val Ala Lys Arg Gln Glu Gly Tyr Val Tyr Val Leu
85 90 95
Glu Phe Tyr Gly Thr Asn Thr Leu Glu Val Ile His Val Ser Glu Asn
100 105 110
Met Leu Val Thr Tyr Val Glu Asn Tyr Asp Gly Glu Arg Ile Thr Lys

115	120	125
Met Thr Glu Gly Leu Ala Lys Gly Thr Ser Phe Thr Pro Glu Glu Leu		
130	135	140
Glu Lys Tyr Gln Gln Leu Asn Ser Glu Arg Gly Val Pro Asn Glu Asn		
145	150	155
Ile Glu Asn Leu Ile Lys Thr Asp Asn Cys Pro Pro		
165	170	

<210> 51
<211> 178
<212> PRT
<213> Bos taurus (Bovine)

<400> 51		
Met Lys Cys Leu Leu Leu Ala Leu Ala Leu Thr Cys Gly Ala Gln Ala		
1	5	10
Leu Ile Val Thr Gln Thr Met Lys Gly Leu Asp Ile Gln Lys Val Ala		
20	25	30
Gly Thr Trp Tyr Ser Leu Ala Met Ala Ala Ser Asp Ile Ser Leu Leu		
35	40	45
Asp Ala Gln Ser Ala Pro Leu Arg Val Tyr Val Glu Glu Leu Lys Pro		
50	55	60
Thr Pro Glu Gly Asp Leu Glu Ile Leu Leu Gln Lys Trp Glu Asn Gly		
65	70	75
Glu Cys Ala Gln Lys Lys Ile Ile Ala Glu Lys Thr Lys Ile Pro Ala		
85	90	95
Val Phe Lys Ile Asp Ala Leu Asn Glu Asn Lys Val Leu Val Leu Asp		
100	105	110
Thr Asp Tyr Lys Tyr Leu Leu Phe Cys Met Glu Asn Ser Ala Glu		
115	120	125
Pro Glu Gln Ser Leu Ala Cys Gln Cys Leu Val Arg Thr Pro Glu Val		
130	135	140
Asp Asp Glu Ala Leu Glu Lys Phe Asp Lys Ala Leu Lys Ala Leu Pro		
145	150	155
Met His Ile Arg Leu Ser Phe Asn Pro Thr Gln Leu Glu Glu Gln Cys		
165	170	175
His Ile		

<210> 52
<211> 129
<212> PRT
<213> Brassica juncea (Leaf mustard) (Indian mustard)

<400> 52		
Ala Gly Pro Phe Arg Phe Pro Arg Cys Arg Lys Glu Phe Gln Gln Ala		
1	5	10
Gln His Leu Arg Ala Cys Gln Gln Trp Leu His Lys Gln Ala Met Gln		
20	25	30
Ser Gly Ser Gly Pro Gln Pro Gln Gly Pro Gln Gln Arg Pro Pro Leu		
35	40	45
Leu Gln Gln Cys Cys Asn Glu Leu His Gln Glu Glu Pro Leu Cys Val		
50	55	60
Cys Pro Thr Leu Lys Gly Ala Ser Lys Ala Val Lys Gln Gln Ile Arg		
65	70	75
		80

Gln Gln Gly Gln Gln Gln Gly Gln Gln Gln Leu Gln His Glu
 85 90 95
 Ile Ser Arg Ile Tyr Gln Thr Ala Thr His Leu Pro Arg Val Cys Asn
 100 105 110
 Ile Pro Arg Val Ser Ile Cys Pro Phe Gln Lys Thr Met Pro Gly Pro
 115 120 125
 Ser

<210> 53
 <211> 350
 <212> PRT
 <213> Candida albicans (Yeast)

<400> 53
 Met Ser Glu Gln Ile Pro Lys Thr Gln Lys Ala Val Val Phe Asp Thr
 1 5 10 15
 Asn Gly Gly Gln Leu Val Tyr Lys Asp Tyr Pro Val Pro Thr Pro Lys
 20 25 30
 Pro Asn Glu Leu Leu Ile His Val Lys Tyr Ser Gly Val Cys His Thr
 35 40 45
 Asp Leu His Ala Arg Lys Gly Asp Trp Pro Leu Ala Thr Lys Leu Pro
 50 55 60
 Leu Val Gly Gly His Glu Gly Ala Gly Val Val Gly Met Gly Glu
 65 70 75 80
 Asn Val Lys Gly Trp Lys Ile Gly Asp Phe Ala Gly Ile Lys Trp Leu
 85 90 95
 Asn Gly Ser Cys Met Ser Cys Glu Phe Cys Gln Gln Gly Ala Glu Pro
 100 105 110
 Asn Cys Gly Glu Ala Asp Leu Ser Gly Tyr Thr His Asp Gly Ser Phe
 115 120 125
 Glu Gln Tyr Ala Thr Ala Asp Ala Val Gln Ala Ala Lys Ile Pro Ala
 130 135 140
 Gly Thr Asp Leu Ala Asn Val Ala Pro Ile Leu Cys Ala Gly Val Thr
 145 150 155 160
 Val Tyr Lys Ala Leu Lys Thr Ala Asp Leu Ala Ala Gly Gln Trp Val
 165 170 175
 Ala Ile Ser Gly Ala Gly Gly Leu Gly Ser Leu Ala Val Gln Tyr
 180 185 190
 Ala Arg Ala Met Gly Leu Arg Val Val Ala Ile Asp Gly Gly Asp Glu
 195 200 205
 Lys Gly Glu Phe Val Lys Ser Leu Gly Ala Glu Ala Tyr Val Asp Phe
 210 215 220
 Thr Lys Asp Lys Asp Ile Val Glu Ala Val Lys Lys Ala Thr Asp Gly
 225 230 235 240
 Gly Pro His Gly Ala Ile Asn Val Ser Val Ser Glu Lys Ala Ile Asp
 245 250 255
 Gln Ser Val Glu Tyr Val Arg Pro Leu Gly Lys Val Val Leu Val Gly
 260 265 270
 Leu Pro Ala His Ala Lys Val Thr Ala Pro Val Phe Asp Ala Val Val
 275 280 285
 Lys Ser Ile Glu Ile Lys Gly Ser Tyr Val Gly Asn Arg Lys Asp Thr
 290 295 300
 Ala Glu Ala Ile Asp Phe Phe Ser Arg Gly Leu Ile Lys Cys Pro Ile
 305 310 315 320
 Lys Ile Val Gly Leu Ser Asp Leu Pro Glu Val Phe Lys Leu Met Glu

325 330 335
Glu Gly Lys Ile Leu Gly Arg Tyr Val Leu Asp Thr Ser Lys
340 345 350

<210> 54
<211> 174
<212> PRT
<213> Canis familiaris (Dog)

<400> 54
Met Lys Thr Leu Leu Leu Thr Ile Gly Phe Ser Leu Ile Ala Ile Leu
1 5 10 15
Gln Ala Gln Asp Thr Pro Ala Leu Gly Lys Asp Thr Val Ala Val Ser
20 25 30
Gly Lys Trp Tyr Leu Lys Ala Met Thr Ala Asp Gln Glu Val Pro Glu
35 40 45
Lys Pro Asp Ser Val Thr Pro Met Ile Leu Lys Ala Gln Lys Gly Gly
50 55 60
Asn Leu Glu Ala Lys Ile Thr Met Leu Thr Asn Gly Gln Cys Gln Asn
65 70 75 80
Ile Thr Val Val Leu His Lys Thr Ser Glu Pro Gly Lys Tyr Thr Ala
85 90 95
Tyr Glu Gly Gln Arg Val Val Phe Ile Gln Pro Ser Pro Val Arg Asp
100 105 110
His Tyr Ile Leu Tyr Cys Glu Gly Glu Leu His Gly Arg Gln Ile Arg
115 120 125
Met Ala Lys Leu Leu Gly Arg Asp Pro Glu Gln Ser Gln Glu Ala Leu
130 135 140
Glu Asp Phe Arg Glu Phe Ser Arg Ala Lys Gly Leu Asn Gln Glu Ile
145 150 155 160
Leu Glu Leu Ala Gln Ser Glu Thr Cys Ser Pro Gly Gly Gln
165 170

<210> 55
<211> 180
<212> PRT
<213> Canis familiaris (Dog)

<400> 55
Met Gln Leu Leu Leu Leu Thr Val Gly Leu Ala Leu Ile Cys Gly Leu
1 5 10 15
Gln Ala Gln Glu Gly Asn His Glu Glu Pro Gln Gly Gly Leu Glu Glu
20 25 30
Leu Ser Gly Arg Trp His Ser Val Ala Leu Ala Ser Asn Lys Ser Asp
35 40 45
Leu Ile Lys Pro Trp Gly His Phe Arg Val Phe Ile His Ser Met Ser
50 55 60
Ala Lys Asp Gly Asn Leu His Gly Asp Ile Leu Ile Pro Gln Asp Gly
65 70 75 80
Gln Cys Glu Lys Val Ser Leu Thr Ala Phe Lys Thr Ala Thr Ser Asn
85 90 95
Lys Phe Asp Leu Glu Tyr Trp Gly His Asn Asp Leu Tyr Leu Ala Glu
100 105 110
Val Asp Pro Lys Ser Tyr Leu Ile Leu Tyr Met Ile Asn Gln Tyr Asn
115 120 125

Asp Asp Thr Ser Leu Val Ala His Leu Met Val Arg Asp Leu Ser Arg
 130 135 140
 Gln Gln Asp Phe Leu Pro Ala Phe Glu Ser Val Cys Glu Asp Ile Gly
 145 150 155 160
 Leu His Lys Asp Gln Ile Val Val Leu Ser Asp Asp Asp Arg Cys Gln
 165 170 175
 Gly Ser Arg Asp
 180

<210> 56
 <211> 159
 <212> PRT
 <213> Carpinus betulus (Hornbeam)

<400> 56
 Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Val Ile Pro Ala Ala
 1 5 10 15
 Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys
 20 25 30
 Val Ala Pro Gln Val Ile Ser Ser Val Glu Asn Val Gly Gly Asn Gly
 35 40 45
 Gly Pro Gly Thr Ile Lys Asn Ile Thr Phe Ala Glu Gly Ile Pro Phe
 50 55 60
 Lys Phe Val Lys Glu Arg Val Asp Glu Val Asp Asn Ala Asn Phe Lys
 65 70 75 80
 Tyr Asn Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
 85 90 95
 Lys Val Ser His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
 100 105 110
 Ile Val Lys Ile Ser Ser Lys Phe His Ala Lys Gly Tyr His Glu Val
 115 120 125
 Asn Ala Glu Lys Met Lys Gly Ala Lys Glu Met Ala Glu Lys Leu Leu
 130 135 140
 Arg Ala Val Glu Ser Tyr Leu Leu Ala His Thr Ala Glu Tyr Asn
 145 150 155

<210> 57
 <211> 159
 <212> PRT
 <213> Carpinus betulus (Hornbeam)

<400> 57
 Gly Val Phe Asn Tyr Glu Ala Glu Thr Thr Ser Val Ile Pro Ala Ala
 1 5 10 15
 Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asn Lys Leu Ile Pro Lys
 20 25 30
 Val Ser Pro Gln Ala Val Ser Ser Val Glu Asn Val Glu Gly Asn Gly
 35 40 45
 Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Ser Glu Gly Ser Pro Val
 50 55 60
 Lys Tyr Val Lys Glu Arg Val Glu Glu Ile Asp His Thr Asn Phe Lys
 65 70 75 80
 Tyr Asn Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
 85 90 95
 Lys Val Ser His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser

	100	105	110												
Ile	Val	Lys	Ile	Ser	Ser	Lys	Phe	His	Ala	Lys	Gly	Tyr	His	Glu	Val
			115			120						125			
Asn	Ala	Glu	Glu	Met	Lys	Gly	Ala	Lys	Glu	Met	Ala	Glu	Lys	Leu	Leu
			130			135					140				
Arg	Ala	Val	Glu	Ser	Tyr	Leu	Leu	Ala	His	Thr	Ala	Glu	Tyr	Asn	
			145			150					155				

<210> 58
<211> 375
<212> PRT
<213> Chamaecyparis obtusa (Japanese cypress)

	<400> 58														
Met	Ala	Ser	Cys	Thr	Leu	Leu	Ala	Val	Leu	Phe	Leu	Cys	Ala	Ile	
					1	5			10				15		
Val	Ser	Cys	Phe	Ser	Asp	Asn	Pro	Ile	Asp	Ser	Cys	Trp	Arg	Gly	Asp
								20	25			30			
Ala	Asn	Trp	Asp	Gln	Asn	Arg	Met	Lys	Leu	Ala	Asp	Cys	Ala	Val	Gly
								35	40			45			
Phe	Gly	Ser	Ser	Ala	Met	Gly	Gly	Lys	Gly	Gly	Ala	Phe	Tyr	Thr	Val
								50	55			60			
Thr	Ser	Ser	Asp	Asp	Asp	Pro	Val	Asn	Pro	Ala	Pro	Gly	Thr	Leu	Arg
								65	70			75		80	
Tyr	Gly	Ala	Thr	Arg	Glu	Arg	Ser	Leu	Trp	Ile	Ile	Phe	Ser	Lys	Asn
								85	90			95			
Leu	Asn	Ile	Lys	Leu	Asn	Met	Pro	Leu	Tyr	Ile	Ala	Gly	Asn	Lys	Thr
								100	105			110			
Ile	Asp	Gly	Arg	Gly	Ala	Glu	Val	His	Ile	Gly	Asn	Gly	Gly	Pro	Cys
								115	120			125			
Leu	Phe	Met	Arg	Thr	Val	Ser	His	Val	Ile	Leu	His	Gly	Leu	Asn	Ile
								130	135			140			
His	Gly	Cys	Asn	Thr	Ser	Val	Ser	Gly	Asn	Val	Leu	Ile	Ser	Glu	Ala
								145	150			155		160	
Ser	Gly	Val	Val	Pro	Val	His	Ala	Gln	Asp	Gly	Asp	Ala	Ile	Thr	Met
								165	170			175			
Arg	Asn	Val	Thr	Asp	Val	Trp	Ile	Asp	His	Asn	Ser	Leu	Ser	Asp	Ser
								180	185			190			
Ser	Asp	Gly	Leu	Val	Asp	Val	Thr	Leu	Ala	Ser	Thr	Gly	Val	Thr	Ile
								195	200			205			
Ser	Asn	Asn	His	Phe	Phe	Asn	His	His	Lys	Val	Met	Leu	Leu	Gly	His
								210	215			220			
Ser	Asp	Ile	Tyr	Ser	Asp	Asp	Lys	Ser	Met	Lys	Val	Thr	Val	Ala	Phe
								225	230			235		240	
Asn	Gln	Phe	Gly	Pro	Asn	Ala	Gly	Gln	Arg	Met	Pro	Arg	Ala	Arg	Tyr
								245	250			255			
Gly	Leu	Ile	His	Val	Ala	Asn	Asn	Tyr	Asp	Pro	Trp	Ser	Ile	Tyr	
								260	265			270			
Ala	Ile	Gly	Gly	Ser	Ser	Asn	Pro	Thr	Ile	Leu	Ser	Glu	Gly	Asn	Ser
								275	280			285			
Phe	Thr	Ala	Pro	Asn	Asp	Ser	Asp	Lys	Lys	Glu	Val	Thr	Arg	Arg	Val
								290	295			300			
Gly	Cys	Glu	Ser	Pro	Ser	Thr	Cys	Ala	Asn	Trp	Val	Trp	Arg	Ser	Thr
								305	310			315		320	
Gln	Asp	Ser	Phe	Asn	Asn	Gly	Ala	Tyr	Phe	Val	Ser	Ser	Gly	Lys	Asn
								325	330			335			

Glu	Gly	Thr	Asn	Ile	Tyr	Asn	Asn	Asn	Glu	Ala	Phe	Lys	Val	Glu	Asn
				340			345						350		
Gly	Ser	Ala	Ala	Pro	Gln	Leu	Thr	Lys	Asn	Ala	Gly	Val	Leu	Thr	Cys
				355		360						365			
Ile	Leu	Ser	Lys	Pro	Cys	Ser									
				370		375									

<210> 59
<211> 496
<212> PRT
<213> Cladosporium herbarum

<400>	59														
Met	Thr	Ser	Val	Gln	Leu	Glu	Thr	Pro	His	Ser	Gly	Lys	Tyr	Glu	Gln
1				5					10				15		
Pro	Thr	Gly	Leu	Phe	Ile	Asn	Asn	Glu	Phe	Val	Lys	Gly	Gln	Glu	Gly
				20					25				30		
Lys	Thr	Phe	Asp	Val	Ile	Asn	Pro	Ser	Asp	Glu	Ser	Val	Ile	Thr	Gln
				35					40			45			
Val	His	Glu	Ala	Thr	Glu	Lys	Asp	Val	Asp	Ile	Ala	Val	Ala	Ala	Ala
				50					55			60			
Arg	Gln	Ala	Phe	Glu	Gly	Ser	Trp	Arg	Leu	Glu	Thr	Pro	Glu	Asn	Arg
				65					70			75			80
Gly	Lys	Leu	Leu	Asn	Asn	Leu	Ala	Asn	Leu	Phe	Glu	Lys	Asn	Thr	Asp
				85					90			95			
Leu	Leu	Ala	Ala	Val	Glu	Ser	Leu	Asp	Asn	Gly	Lys	Ala	Thr	Ser	Met
				100					105			110			
Ala	Arg	Val	Thr	Ser	Ala	Cys	Ala	Ser	Gly	Cys	Leu	Arg	Tyr	Tyr	Gly
				115					120			125			
Gly	Trp	Ala	Asp	Lys	Ile	Thr	Gly	Lys	Val	Ile	Asp	Thr	Thr	Pro	Asp
				130					135			140			
Thr	Phe	Asn	Tyr	Val	Lys	Lys	Glu	Pro	Ile	Gly	Val	Cys	Arg	Ser	Asp
				145					150			155			160
His	Ser	Leu	Glu	Leu	Pro	Leu	Leu	Met	Trp	Ala	Trp	Lys	Ile	Gly	Pro
				165					170			175			
Ala	Ile	Ala	Cys	Gly	Asn	Thr	Val	Val	Leu	Lys	Thr	Ala	Glu	Gln	Thr
				180					185			190			
Pro	Leu	Gly	Gly	Leu	Val	Ala	Ala	Ser	Leu	Val	Lys	Glu	Ala	Gly	Phe
				195					200			205			
Pro	Pro	Gly	Val	Ile	Asn	Val	Ile	Ser	Gly	Phe	Gly	Lys	Val	Ala	Gly
				210					215			220			
Ala	Ala	Leu	Ser	Ser	His	Met	Asp	Val	Asp	Lys	Val	Ala	Phe	Thr	Gly
				225					230			235			240
Ser	Thr	Val	Val	Gly	Arg	Thr	Ile	Leu	Lys	Ala	Ala	Ser	Ser	Asn	
				245					250			255			
Leu	Lys	Lys	Val	Thr	Leu	Glu	Leu	Gly	Gly	Lys	Ser	Pro	Asn	Ile	Val
				260					265			270			
Phe	Glu	Asp	Ala	Asp	Ile	Asp	Asn	Ala	Ile	Ser	Trp	Val	Asn	Phe	Gly
				275					280			285			
Ile	Phe	Phe	Asn	His	Gly	Gln	Cys	Cys	Cys	Ala	Gly	Ser	Arg	Val	Tyr
				290					295			300			
Val	Gln	Glu	Ser	Ile	Tyr	Asp	Lys	Phe	Val	Gln	Lys	Phe	Lys	Glu	Arg
				305					310			315			320
Ala	Gln	Lys	Asn	Val	Val	Gly	Asp	Pro	Phe	Ala	Ala	Asp	Thr	Phe	Gln
				325					330			335			
Gly	Pro	Gln	Val	Ser	Lys	Val	Gln	Phe	Asp	Arg	Ile	Met	Glu	Tyr	Ile

340	345	350
Gln Ala Gly Lys Asp Ala Gly Ala Thr Val Glu Thr Gly Gly Ser Arg		
355	360	365
Lys Gly Asp Lys Gly Tyr Phe Ile Glu Pro Thr Ile Phe Ser Asn Val		
370	375	380
Thr Glu Asp Met Lys Ile Val Lys Glu Glu Ile Phe Gly Pro Val Cys		
385	390	395
Ser Ile Ala Lys Phe Lys Thr Lys Glu Asp Ala Ile Lys Leu Gly Asn		
405	410	415
Ala Ser Thr Tyr Gly Leu Ala Ala Val His Thr Lys Asn Leu Asn		
420	425	430
Thr Ala Ile Glu Val Ser Asn Ala Leu Lys Ala Gly Thr Val Trp Val		
435	440	445
Asn Thr Tyr Asn Thr Leu His His Gln Met Pro Phe Gly Gly Tyr Lys		
450	455	460
Glu Ser Gly Ile Gly Arg Glu Leu Gly Glu Asp Ala Leu Ala Asn Tyr		
465	470	475
Thr Gln Thr Lys Thr Val Ser Ile Arg Leu Gly Asp Ala Leu Phe Gly		
485	490	495

<210> 60
<211> 111
<212> PRT
<213> Cladosporium herbarum

<400> 60		
Met Lys Tyr Met Ala Ala Tyr Leu Leu Gly Leu Ala Gly Asn Ser		
1	5	10
Ser Pro Ser Ala Glu Asp Ile Lys Thr Val Leu Ser Ser Val Gly Ile		
20	25	30
Asp Ala Asp Glu Glu Arg Leu Ser Ser Leu Leu Lys Glu Leu Glu Gly		
35	40	45
Lys Asp Ile Asn Glu Leu Ile Ser Ser Gly Ser Gln Lys Leu Ala Ser		
50	55	60
Val Pro Ser Gly Gly Ser Gly Ala Ala Pro Ser Ala Gly Gly Ala Ala		
65	70	75
Ala Ala Gly Gly Ala Thr Glu Ala Ala Pro Glu Ala Ala Lys Glu Glu		
85	90	95
Glu Lys Glu Glu Ser Asp Asp Asp Met Gly Phe Gly Leu Phe Asp		
100	105	110

<210> 61
<211> 643
<212> PRT
<213> Cladosporium herbarum

<400> 61		
Met Ala Pro Ala Ile Gly Ile Asp Leu Gly Thr Thr Tyr Ser Cys Val		
1	5	10
Gly Ile Tyr Arg Asp Asp Arg Ile Glu Ile Ile Ala Asn Asp Gln Gly		
20	25	30
Asn Arg Thr Thr Pro Ser Phe Val Ala Phe Thr Asp Thr Glu Arg Leu		
35	40	45
Ile Gly Asp Ser Ala Lys Asn Gln Val Ala Ile Asn Pro His Asn Thr		
50	55	60

Val Phe Asp Ala Lys Arg Leu Ile Gly Arg Lys Phe Gln Asp Ala Glu
 65 70 75 80
 Val Gln Ala Asp Met Lys His Phe Pro Phe Lys Val Ile Glu Lys Ala
 85 90 95
 Gly Lys Pro Val Thr Gln Val Glu Phe Lys Gly Glu Thr Lys Asp Phe
 100 105 110
 Thr Pro Glu Glu Ile Ser Ser Met Ile Leu Thr Lys Met Arg Glu Thr
 115 120 125
 Ala Glu Ser Tyr Leu Gly Gly Thr Val Asn Asn Ala Val Ile Thr Val
 130 135 140
 Pro Ala Tyr Phe Asn Asp Ser Gln Arg Gln Ala Thr Lys Asp Ala Gly
 145 150 155 160
 Leu Ile Ala Gly Leu Asn Val Leu Arg Ile Ile Asn Glu Pro Thr Ala
 165 170 175
 Ala Ala Ile Ala Tyr Gly Leu Asp Lys Lys Gln Glu Gly Glu Lys Asn
 180 185 190
 Val Leu Ile Phe Asp Leu Gly Gly Thr Phe Asp Val Ser Phe Leu
 195 200 205
 Thr Ile Glu Glu Gly Ile Phe Glu Val Lys Ser Thr Ala Gly Asp Thr
 210 215 220
 His Leu Gly Gly Glu Asp Phe Asp Asn Arg Leu Val Asn His Phe Ser
 225 230 235 240
 Asn Glu Phe Lys Arg Lys His Lys Lys Asp Leu Ser Asp Asn Ala Arg
 245 250 255
 Ala Leu Arg Arg Leu Arg Thr Ala Cys Glu Arg Ala Lys Arg Thr Leu
 260 265 270
 Ser Ser Ser Ala Gln Thr Ser Ile Glu Ile Asp Ser Leu Phe Glu Gly
 275 280 285
 Ile Asp Phe Phe Thr Ser Asn Thr Arg Ala Arg Phe Glu Glu Val Gly
 290 295 300
 Gln Asp Leu Phe Arg Gly Asn Met Glu Pro Gly Glu Arg Thr Leu Arg
 305 310 315 320
 Asp Asp Lys Ile Asp Lys Ser Ser Val His Glu Ile Val Leu Gly Gly
 325 330 335
 Gly Ser Thr Arg Ile Pro Lys Val Gln Lys Leu Val Ser Asp Phe Phe
 340 345 350
 Asn Gly Lys Glu Pro Cys Lys Ser Ile Asn Pro Asp Glu Ala Val Ala
 355 360 365
 Tyr Gly Ala Ala Val Gln Ala Ala Ile Leu Ser Gly Asp Thr Ser Ser
 370 375 380
 Lys Ser Thr Lys Glu Ile Leu Leu Asp Val Ala Pro Leu Ser Leu
 385 390 395 400
 Gly Ile Glu Thr Ala Gly Gly Val Met Thr Ala Leu Ile Lys Arg Asn
 405 410 415
 Thr Thr Ile Pro Thr Lys Lys Ser Glu Thr Phe Ser Thr Phe Ser Asp
 420 425 430
 Asn Gln Pro Gly Val Leu Ile Gln Val Phe Glu Gly Glu Arg Ala Arg
 435 440 445
 Thr Lys Asp Ile Asn Leu Met Gly Lys Phe Glu Leu Ser Gly Ile Arg
 450 455 460
 Pro Ala Pro Arg Gly Val Pro Gln Ile Glu Val Thr Phe Asp Leu Asp
 465 470 475 480
 Ala Asn Gly Ile Met Asn Val Ser Ala Leu Glu Lys Gly Thr Gly Lys
 485 490 495
 Thr Asn Lys Ile Val Ile Thr Asn Asp Lys Gly Arg Leu Ser Lys Glu
 500 505 510
 Glu Ile Glu Arg Met Leu Ala Asp Ala Glu Lys Tyr Lys Glu Glu Asp

515	520	525
Glu Ala Glu Ala Gly Arg Ile Gln Ala Lys Asn Gly Leu Glu Ser Tyr		
530	535	540
Ala Tyr Ser Leu Lys Asn Thr Val Ser Asp Pro Lys Val Glu Glu Lys		
545	550	555
Leu Ser Ala Glu Asp Lys Glu Thr Leu Thr Gly Ala Ile Asp Lys Thr		
565	570	575
Val Ala Trp Ile Asp Glu Asn Gln Thr Ala Thr Lys Glu Glu Tyr Glu		
580	585	590
Ala Glu Gln Lys Gln Leu Glu Ser Val Ala Asn Pro Val Met Met Lys		
595	600	605
Ile Tyr Gly Ala Glu Gly Gly Ala Pro Gly Gly Met Pro Gly Gln Gly		
610	615	620
Ala Gly Ala Pro Pro Pro Gly Ala Gly Asp Asp Gly Pro Thr Val Glu		
625	630	635
Glu Val Asp		

<210> 62
<211> 112
<212> PRT
<213> Cladosporium herbarum

<400> 62		
Met Lys Tyr Leu Ala Ala Phe Leu Leu Leu Gly Leu Ala Gly Asn Ser		
1	5	10
Ser Pro Ser Ala Glu Asp Ile Lys Thr Val Leu Ser Ser Val Gly Ile		
20	25	30
Asp Ala Asp Glu Glu Arg Leu Ser Ser Leu Leu Lys Glu Leu Glu Gly		
35	40	45
Lys Asp Ile Asn Glu Leu Ile Ser Ser Gly Ser Glu Lys Leu Ala Ser		
50	55	60
Val Pro Ser Gly Gly Ala Gly Ala Ala Ser Ala Gly Gly Ala Ala Ala		
65	70	75
Ala Gly Gly Ala Ala Glu Ala Ala Pro Glu Ala Glu Arg Ala Glu Glu		
85	90	95
Glu Lys Glu Glu Ser Asp Asp Asp Met Gly Phe Gly Leu Phe Asp Glx		
100	105	110

<210> 63
<211> 204
<212> PRT
<213> Cladosporium herbarum

<400> 63		
Met Ala Pro Lys Ile Ala Ile Ile Phe Tyr Ser Thr Trp Gly His Val		
1	5	10
Gln Thr Leu Ala Glu Ala Glu Ala Lys Gly Ile Arg Glu Ala Gly Gly		
20	25	30
Ser Val Asp Leu Tyr Arg Val Pro Glu Thr Leu Thr Gln Glu Val Leu		
35	40	45
Thr Lys Met His Ala Pro Pro Lys Asp Asp Ser Ile Pro Glu Ile Thr		
50	55	60
Asp Pro Phe Ile Leu Glu Gln Tyr Asp Arg Phe Pro His Gly His Pro		
65	70	75

Thr Arg Tyr Gly Asn Phe Pro Ala Gln Trp Arg Thr Phe Trp Asp Arg
 85 90 95
 Thr Gly Gly Gln Trp Gln Thr Gly Ala Phe Trp Gly Lys Tyr Ala Gly
 100 105 110
 Leu Phe Ile Ser Thr Gly Thr Gln Gly Gly Gln Glu Ser Thr Ala
 115 120 125
 Leu Ala Ala Met Ser Thr Leu Ser His His Gly Ile Ile Tyr Val Pro
 130 135 140
 Leu Gly Tyr Lys Thr Thr Phe His Leu Leu Gly Asp Asn Ser Glu Val
 145 150 155 160
 Arg Gly Ala Ala Val Trp Gly Ala Gly Thr Phe Ser Gly Gly Asp Gly
 165 170 175
 Ser Arg Gln Pro Ser Gln Lys Glu Leu Glu Leu Thr Ala Gln Gly Lys
 180 185 190
 Ala Phe Tyr Glu Ala Val Ala Lys Val Asn Phe Gln
 195 200

<210> 64
 <211> 440
 <212> PRT
 <213> Cladosporium herbarum

<400> 64
 Met Pro Ile Ser Lys Ile His Ser Arg Tyr Val Tyr Asp Ser Arg Gly
 1 5 10 15
 Asn Pro Thr Val Glu Val Asp Ile Val Thr Glu Thr Gly Leu His Arg
 20 25 30
 Ala Ile Val Pro Ser Gly Ala Ser Thr Gly Ser His Glu Ala Cys Glu
 35 40 45
 Leu Arg Asp Gly Asp Lys Ser Lys Trp Ala Gly Lys Gly Val Thr Lys
 50 55 60
 Ala Val Ala Asn Val Asn Glu Ile Ile Ala Pro Ala Leu Ile Lys Glu
 65 70 75 80
 Asn Leu Asp Val Lys Asp Gln Ala Ala Val Asp Ala Phe Leu Asn Lys
 85 90 95
 Leu Asp Gly Thr Thr Asn Lys Thr Lys Ile Gly Ala Asn Ala Ile Leu
 100 105 110
 Gly Val Ser Met Ala Val Ala Lys Ala Ala Ala Glu Lys Arg Val
 115 120 125
 Pro Leu Tyr Ala His Ile Ser Asp Leu Ser Gly Thr Lys Lys Pro Phe
 130 135 140
 Val Leu Pro Val Pro Phe Met Asn Val Val Asn Gly Gly Ser His Ala
 145 150 155 160
 Gly Gly Arg Leu Ala Phe Gln Glu Phe Met Ile Val Pro Ser Gly Ala
 165 170 175
 Pro Ser Phe Thr Glu Ala Met Arg Gln Gly Ala Glu Val Tyr Gln Lys
 180 185 190
 Leu Lys Ser Leu Thr Lys Lys Arg Tyr Gly Gln Ser Ala Gly Asn Val
 195 200 205
 Gly Asp Glu Gly Gly Val Ala Pro Asp Ile Gln Thr Ala Glu Glu Ala
 210 215 220
 Leu Asp Leu Ile Thr Asp Ala Ile Glu Glu Ala Gly Tyr Thr Gly Gln
 225 230 235 240
 Ile Lys Ile Ala Met Asp Val Ala Ser Ser Glu Phe Tyr Lys Ala Asp
 245 250 255
 Glu Lys Lys Tyr Asp Leu Asp Phe Lys Asn Pro Asp Ser Asp Lys Ser

	260	265	270
Lys Trp Ile Thr Tyr Glu Gln Leu Ala Asp Gln Tyr Lys Gln Leu Ala			
275	280	285	
Ala Lys Tyr Pro Ile Val Ser Ile Glu Asp Pro Phe Ala Glu Asp Asp			
290	295	300	
Trp Glu Ala Trp Ser Tyr Phe Tyr Lys Thr Ser Gly Ser Asp Phe Gln			
305	310	315	320
Ile Val Gly Asp Asp Leu Thr Val Thr Asn Pro Glu Phe Ile Lys Lys			
325	330	335	
Ala Ile Glu Thr Lys Ala Cys Asn Ala Leu Leu Leu Lys Val Asn Gln			
340	345	350	
Ile Gly Thr Ile Thr Glu Ala Ile Asn Ala Ala Lys Asp Ser Phe Ala			
355	360	365	
Ala Gly Trp Gly Val Met Val Ser His Arg Ser Gly Glu Thr Glu Asp			
370	375	380	
Val Thr Ile Ala Asp Ile Val Val Gly Leu Arg Ala Gly Gln Ile Lys			
385	390	395	400
Thr Gly Ala Pro Ala Arg Ser Glu Arg Leu Ala Lys Leu Asn Gln Ile			
405	410	415	
Leu Arg Ile Glu Glu Leu Gly Asp Lys Ala Val Tyr Ala Gly Asp			
420	425	430	
Asn Phe Arg Thr Ala Ile Asn Leu			
435	440		

<210> 65

<211> 110

<212> PRT

<213> Cladosporium herbarum

<400> 65

Met Ser Ala Ala Glu Leu Ala Ser Ser Tyr Ala Ala Leu Ile Leu Ala			
1	5	10	15
Asp Glu Gly Leu Glu Ile Thr Ala Asp Lys Leu Gln Ala Leu Ile Ser			
20	25	30	
Ala Ala Lys Val Pro Glu Ile Glu Pro Ile Trp Thr Ser Ile Phe Ala			
35	40	45	
Lys Ala Leu Glu Gly Lys Asp Val Lys Asp Leu Leu Asn Val Gly			
50	55	60	
Ser Gly Gly Ala Ala Pro Ala Ala Gly Gly Ala Ala Gly Gly			
65	70	75	80
Ala Ala Ala Val Leu Asp Ala Pro Ala Glu Glu Lys Ala Glu Glu			
85	90	95	
Lys Glu Glu Ser Asp Asp Met Gly Phe Gly Leu Phe Asp			
100	105	110	

<210> 66

<211> 159

<212> PRT

<213> Corylus avellana (European hazel)

<400> 66

Gly Val Phe Asn Tyr Glu Val Glu Thr Pro Ser Val Ile Pro Ala Ala			
1	5	10	15
Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys			
20	25	30	

Val Ala Pro Gln Ala Ile Thr Ser Val Glu Asn Val Glu Gly Asn Gly
 35 40 45
 Gly Pro Gly Thr Ile Lys Asn Ile Thr Phe Gly Glu Gly Ser Arg Tyr
 50 55 60
 Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp Asn Thr Asn Phe Thr
 65 70 75 80
 Tyr Ser Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
 85 90 95
 Lys Val Cys His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
 100 105 110
 Ile Leu Lys Ile Ser Ser Lys Phe His Ala Lys Gly Asp His Glu Ile
 115 120 125
 Asn Ala Glu Glu Met Lys Gly Ala Lys Glu Met Ala Glu Lys Leu Leu
 130 135 140
 Arg Ala Val Glu Thr Tyr Leu Leu Ala His Ser Ala Glu Tyr Asn
 145 150 155

<210> 67
 <211> 346
 <212> PRT
 <213> Cupressus arizonica

<400> 67
 Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp Ser Asn Trp Asp Gln
 1 5 10 15
 Asn Arg Met Lys Leu Ala Asp Cys Val Val Gly Phe Gly Ser Ser Thr
 20 25 30
 Met Gly Gly Lys Gly Glu Ile Tyr Thr Val Thr Ser Ser Glu Asp
 35 40 45
 Asn Pro Val Asn Pro Thr Pro Gly Thr Leu Arg Tyr Gly Ala Thr Arg
 50 55 60
 Glu Lys Ala Leu Trp Ile Ile Phe Ser Gln Asn Met Asn Ile Lys Leu
 65 70 75 80
 Gln Met Pro Leu Tyr Val Ala Gly Tyr Lys Thr Ile Asp Gly Arg Gly
 85 90 95
 Ala Val Val His Leu Gly Asn Gly Pro Cys Leu Phe Met Arg Lys
 100 105 110
 Ala Ser His Val Ile Leu His Gly Leu His Ile His Gly Cys Asn Thr
 115 120 125
 Ser Val Leu Gly Asp Val Leu Val Ser Glu Ser Ile Gly Val Glu Pro
 130 135 140
 Val His Ala Gln Asp Gly Asp Ala Ile Thr Met Arg Asn Val Thr Asn
 145 150 155 160
 Ala Trp Ile Asp His Asn Ser Leu Ser Asp Cys Ser Asp Gly Leu Ile
 165 170 175
 Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile Ser Asn Asn His Phe
 180 185 190
 Phe Asn His His Lys Val Met Leu Leu Gly His Asp Asp Thr Tyr Asp
 195 200 205
 Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe Asn Gln Phe Gly Pro
 210 215 220
 Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr Gly Leu Val His Val
 225 230 235 240
 Ala Asn Asn Asn Tyr Asp Gln Trp Asn Ile Tyr Ala Ile Gly Gly Ser
 245 250 255
 Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser Phe Thr Ala Pro Asn

260	265	270
Glu Ser Tyr Lys Lys Glu Val Thr Lys Arg Ile Gly Cys Glu Thr Thr		
275	280	285
Ser Ala Cys Ala Asn Trp Val Trp Arg Ser Thr Arg Asp Ala Phe Thr		
290	295	300
Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Ala Glu Asp Thr Asn Ile		
305	310	315
Tyr Asn Ser Asn Glu Ala Phe Lys Val Glu Asn Gly Asn Ala Ala Pro		
325	330	335
Gln Leu Thr Gln Asn Ala Gly Val Val Ala		
340	345	

<210> 68
<211> 374
<212> PRT
<213> Cryptomeria japonica (Japanese cedar)

<400> 68		
Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Leu Ser Phe Val Ile		
1	5	10
Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp		
20	25	30
Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly		
35	40	45
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Asp Leu Tyr Thr Val		
50	55	60
Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Ala Pro Gly Thr Leu Arg		
65	70	75
Tyr Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn		
85	90	95
Met Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr		
100	105	110
Phe Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys		
115	120	125
Val Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu His Leu		
130	135	140
Tyr Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser		
145	150	155
Phe Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu		
165	170	175
Arg Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser		
180	185	190
Ser Asp Gly Leu Val Asp Val Thr Leu Ser Ser Thr Gly Val Thr Ile		
195	200	205
Ser Asn Asn Leu Phe Phe Asn His His Lys Val Met Leu Leu Gly His		
210	215	220
Asp Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe		
225	230	235
Asn Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr		
245	250	255
Gly Leu Val His Val Ala Asn Asn Tyr Asp Pro Trp Thr Ile Tyr		
260	265	270
Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser		
275	280	285
Phe Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile		
290	295	300

Gly	Cys	Lys	Thr	Ser	Ser	Ser	Cys	Ser	Asn	Trp	Val	Trp	Gln	Ser	Thr
305							310			315					320
Gln	Asp	Val	Phe	Tyr	Asn	Gly	Ala	Tyr	Phe	Val	Ser	Ser	Gly	Lys	Tyr
							325			330					335
Glu	Gly	Gly	Asn	Ile	Tyr	Thr	Lys	Lys	Glu	Ala	Phe	Asn	Val	Glu	Asn
							340			345					350
Gly	Asn	Ala	Thr	Pro	Gln	Leu	Thr	Lys	Asn	Ala	Gly	Val	Leu	Thr	Cys
							355			360					365
Ser	Leu	Ser	Lys	Arg	Cys										
							370								

<210> 69
<211> 514
<212> PRT
<213> Cryptomeria japonica (Japanese cedar)

<400> 69																
Met	Ala	Met	Lys	Phe	Ile	Ala	Pro	Met	Ala	Phe	Val	Ala	Met	Gln	Leu	
1				5						10					15	
Ile	Ile	Met	Ala	Ala	Ala	Glu	Asp	Gln	Ser	Ala	Gln	Ile	Met	Leu	Asp	
										20		25			30	
Ser	Asp	Ile	Glu	Gln	Tyr	Leu	Arg	Ser	Asn	Arg	Ser	Leu	Arg	Lys	Val	
										35		40			45	
Glu	His	Ser	Arg	His	Asp	Ala	Ile	Asn	Ile	Phe	Asn	Val	Glu	Lys	Tyr	
										50		55			60	
Gly	Ala	Val	Gly	Asp	Gly	Lys	His	Asp	Cys	Thr	Glu	Ala	Phe	Ser	Thr	
										65		70			80	
Ala	Trp	Gln	Ala	Ala	Cys	Lys	Lys	Pro	Ser	Ala	Met	Leu	Leu	Val	Pro	
										85		90			95	
Gly	Asn	Lys	Lys	Phe	Val	Val	Asn	Asn	Leu	Phe	Phe	Asn	Gly	Pro	Cys	
										100		105			110	
Gln	Pro	His	Phe	Thr	Phe	Lys	Val	Asp	Gly	Ile	Ile	Ala	Ala	Tyr	Gln	
										115		120			125	
Asn	Pro	Ala	Ser	Trp	Lys	Asn	Asn	Arg	Ile	Trp	Leu	Gln	Phe	Ala	Lys	
										130		135			140	
Leu	Thr	Gly	Phe	Thr	Leu	Met	Gly	Lys	Gly	Val	Ile	Asp	Gly	Gln	Gly	
										145		150			160	
Lys	Gln	Trp	Trp	Ala	Gly	Gln	Cys	Lys	Trp	Val	Asn	Gly	Arg	Glu	Ile	
										165		170			175	
Cys	Asn	Asp	Arg	Asp	Arg	Pro	Thr	Ala	Ile	Lys	Phe	Asp	Phe	Ser	Thr	
										180		185			190	
Gly	Leu	Ile	Ile	Gln	Gly	Leu	Lys	Leu	Met	Asn	Ser	Pro	Glu	Phe	His	
										195		200			205	
Leu	Val	Phe	Gly	Asn	Cys	Glu	Gly	Val	Lys	Ile	Ile	Gly	Ile	Ser	Ile	
										210		215			220	
Thr	Ala	Pro	Arg	Asp	Ser	Pro	Asn	Thr	Asp	Gly	Ile	Asp	Ile	Phe	Ala	
										225		230			240	
Ser	Lys	Asn	Phe	His	Leu	Gln	Lys	Asn	Thr	Ile	Gly	Thr	Gly	Asp	Asp	
										245		250			255	
Cys	Val	Ala	Ile	Gly	Thr	Gly	Ser	Ser	Asn	Ile	Val	Ile	Glu	Asp	Leu	
										260		265			270	
Ile	Cys	Gly	Pro	Gly	His	Gly	Ile	Ser	Ile	Gly	Ser	Leu	Gly	Arg	Glu	
										275		280			285	
Asn	Ser	Arg	Ala	Glu	Val	Ser	Tyr	Val	His	Val	Asn	Gly	Ala	Lys	Phe	
										290		295			300	
Ile	Asp	Thr	Gln	Asn	Gly	Leu	Arg	Ile	Lys	Thr	Trp	Gln	Gly	Gly	Ser	

305	310	315	320
Gly Met Ala Ser His Ile Ile Tyr Glu Asn Val Glu Met Ile Asn Ser			
325	330	335	
Glu Asn Pro Ile Leu Ile Asn Gln Phe Tyr Cys Thr Ser Ala Ser Ala			
340	345	350	
Cys Gln Asn Gln Arg Ser Ala Val Gln Ile Gln Asp Val Thr Tyr Lys			
355	360	365	
Asn Ile Arg Gly Thr Ser Ala Thr Ala Ala Ala Ile Gln Leu Lys Cys			
370	375	380	
Ser Asp Ser Met Pro Cys Lys Asp Ile Lys Leu Ser Asp Ile Ser Leu			
385	390	395	400
Lys Leu Thr Ser Gly Ile Ala Ser Cys Leu Asn Asp Asn Ala Asn			
405	410	415	
Gly Tyr Phe Ser Gly His Val Ile Pro Ala Cys Lys Asn Leu Ser Pro			
420	425	430	
Ser Ala Lys Arg Lys Glu Ser Lys Ser His Lys His Pro Lys Thr Val			
435	440	445	
Met Val Lys Asn Met Gly Ala Tyr Asp Lys Gly Asn Arg Thr Arg Ile			
450	455	460	
Leu Leu Gly Ser Arg Pro Pro Asn Cys Thr Asn Lys Cys His Gly Cys			
465	470	475	480
Ser Pro Cys Lys Ala Lys Leu Val Ile Val His Arg Ile Met Pro Gln			
485	490	495	
Glu Tyr Tyr Pro Gln Arg Trp Met Cys Ser Arg His Gly Lys Ile Tyr			
500	505	510	
His Pro			

<210> 70
<211> 131
<212> PRT
<213> Cynodon dactylon (Bermuda grass)

<400> 70			
Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Ile Glu			
1	5	10	15
Gly His His Leu Thr Ser Ala Ala Ile Ile Gly His Asp Gly Thr Val			
20	25	30	
Trp Ala Gln Ser Ala Ala Phe Pro Ala Phe Lys Pro Glu Glu Met Ala			
35	40	45	
Asn Ile Met Lys Asp Phe Asp Glu Pro Gly Phe Leu Ala Pro Thr Gly			
50	55	60	
Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly			
65	70	75	80
Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Val Thr Val Lys Lys			
85	90	95	
Thr Gly Gln Ala Leu Val Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro			
100	105	110	
Gly Gln Cys Asn Met Val Ile Glu Lys Leu Gly Asp Tyr Leu Ile Glu			
115	120	125	
Gln Gly Met			
130			

<210> 71
<211> 36

<212> PRT

<213> Dactylis glomerata(Orchard grass) (Cocksfoot grass)

<400> 71

Glu	Ala	Pro	Val	Thr	Phe	Thr	Val	Glu	Lys	Gly	Ser	Asp	Glu	Lys	Asn
1			5				10						15		
Leu	Ala	Leu	Ser	Ile	Lys	Tyr	Asn	Lys	Glu	Gly	Asp	Ser	Met	Ala	Glu
			20				25						30		
Val	Glu	Leu	Lys												
			35												

<210> 72

<211> 154

<212> PRT

<213> Daucus carota (Carrot)

<400> 72

Met	Gly	Ala	Gln	Ser	His	Ser	Leu	Glu	Ile	Thr	Ser	Ser	Val	Ser	Ala
1				5				10					15		
Glu	Lys	Ile	Phe	Ser	Gly	Ile	Val	Leu	Asp	Val	Asp	Thr	Val	Ile	Pro
				20				25					30		
Lys	Ala	Ala	Pro	Gly	Ala	Tyr	Lys	Ser	Val	Glu	Val	Lys	Gly	Asp	Gly
				35				40				45			
Gly	Ala	Gly	Thr	Val	Arg	Ile	Ile	Thr	Leu	Pro	Glu	Gly	Ser	Pro	Ile
				50				55			60				
Thr	Ser	Met	Thr	Val	Arg	Thr	Asp	Ala	Val	Asn	Lys	Glu	Ala	Leu	Thr
		65				70			75			80			
Tyr	Asp	Ser	Thr	Val	Ile	Asp	Gly	Asp	Ile	Leu	Leu	Gly	Phe	Ile	Glu
				85				90				95			
Ser	Ile	Glu	Thr	His	Leu	Val	Val	Val	Pro	Thr	Ala	Asp	Gly	Gly	Ser
				100				105			110				
Ile	Thr	Lys	Thr	Thr	Ala	Ile	Phe	His	Thr	Lys	Gly	Asp	Ala	Val	Val
		115				120			125						
Pro	Glu	Glu	Asn	Ile	Lys	Phe	Ala	Asp	Ala	Gln	Asn	Thr	Ala	Leu	Phe
			130			135			140						
Lys	Ala	Ile	Glu	Ala	Tyr	Leu	Ile	Ala	Asn						
		145				150									

<210> 73

<211> 321

<212> PRT

<213> Dermatophagoides farinae (House-dust mite)

<400> 73

Met	Lys	Phe	Val	Leu	Ala	Ile	Ala	Ser	Leu	Leu	Val	Leu	Ser	Thr	Val
1				5				10				15			
Tyr	Ala	Arg	Pro	Ala	Ser	Ile	Lys	Thr	Phe	Glu	Glu	Phe	Lys	Lys	Ala
			20				25					30			
Phe	Asn	Lys	Asn	Tyr	Ala	Thr	Val	Glu	Glu	Glu	Val	Ala	Arg	Lys	
			35				40				45				
Asn	Phe	Leu	Glu	Ser	Leu	Lys	Tyr	Val	Glu	Ala	Asn	Lys	Gly	Ala	Ile
			50			55			60						
Asn	His	Leu	Ser	Asp	Leu	Ser	Leu	Asp	Glu	Phe	Lys	Asn	Arg	Tyr	Leu
		65			70			75			80				
Met	Ser	Ala	Glu	Ala	Phe	Glu	Gln	Leu	Lys	Thr	Gln	Phe	Asp	Leu	Asn

	85	90	95												
Ala	Glu	Thr	Ser	Ala	Cys	Arg	Ile	Asn	Ser	Val	Asn	Val	Pro	Ser	Glu
	100				105								110		
Leu	Asp	Leu	Arg	Ser	Leu	Arg	Thr	Val	Thr	Pro	Ile	Arg	Met	Gln	Gly
	115				120							125			
Gly	Cys	Gly	Ser	Cys	Trp	Ala	Phe	Ser	Gly	Val	Ala	Ala	Thr	Glu	Ser
	130				135						140				
Ala	Tyr	Leu	Ala	Tyr	Arg	Asn	Thr	Ser	Leu	Asp	Leu	Ser	Glu	Gln	Glu
	145				150					155			160		
Leu	Val	Asp	Cys	Ala	Ser	Gln	His	Gly	Cys	His	Gly	Asp	Thr	Ile	Pro
	165				170					175				175	
Arg	Gly	Ile	Glu	Tyr	Ile	Gln	Gln	Asn	Gly	Val	Val	Glu	Glu	Arg	Ser
	180				185							190			
Tyr	Pro	Tyr	Val	Ala	Arg	Glu	Gln	Arg	Cys	Arg	Arg	Pro	Asn	Ser	Gln
	195				200						205				
His	Tyr	Gly	Ile	Ser	Asn	Tyr	Cys	Gln	Ile	Tyr	Pro	Pro	Asp	Val	Lys
	210				215					220					
Gln	Ile	Arg	Glu	Ala	Leu	Thr	Gln	Thr	His	Thr	Ala	Ile	Ala	Val	Ile
	225				230				235			240			
Ile	Gly	Ile	Lys	Asp	Leu	Arg	Ala	Phe	Gln	His	Tyr	Asp	Gly	Arg	Thr
	245				250				250			255			
Ile	Ile	Gln	His	Asp	Asn	Gly	Tyr	Gln	Pro	Asn	Tyr	His	Ala	Val	Asn
	260				265				265			270			
Ile	Val	Gly	Tyr	Gly	Ser	Thr	Gln	Gly	Asp	Asp	Tyr	Trp	Ile	Val	Arg
	275				280				280			285			
Asn	Ser	Trp	Asp	Thr	Thr	Trp	Gly	Asp	Ser	Gly	Tyr	Gly	Tyr	Phe	Gln
	290				295				295			300			
Ala	Gly	Asn	Asn	Leu	Met	Met	Ile	Glu	Gln	Tyr	Pro	Tyr	Val	Val	Ile
	305				310				315			315			320
Met															

<210> 74
<211> 146
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)

	<400> 74														
Met	Ile	Ser	Lys	Ile	Leu	Cys	Leu	Ser	Leu	Leu	Val	Ala	Ala	Val	Val
	1			5				10			15				
Ala	Asp	Gln	Val	Asp	Val	Lys	Asp	Cys	Ala	Asn	Asn	Glu	Ile	Lys	Lys
	20				25				25			30			
Val	Met	Val	Asp	Gly	Cys	His	Gly	Ser	Asp	Pro	Cys	Ile	Ile	His	Arg
	35				40				40			45			
Gly	Lys	Pro	Phe	Thr	Leu	Glu	Ala	Leu	Phe	Asp	Ala	Asn	Gln	Asn	Thr
	50				55				55			60			
Lys	Thr	Ala	Lys	Ile	Glu	Ile	Lys	Ala	Ser	Leu	Asp	Gly	Leu	Glu	Ile
	65				70				75			80			
Asp	Val	Pro	Gly	Ile	Asp	Thr	Asn	Ala	Cys	His	Phe	Met	Lys	Cys	Pro
	85				90				90			95			
Leu	Val	Lys	Gly	Gln	Gln	Tyr	Asp	Ile	Lys	Tyr	Thr	Trp	Asn	Val	Pro
	100				105				105			110			
Lys	Ile	Ala	Pro	Lys	Ser	Glu	Asn	Val	Val	Val	Thr	Val	Lys	Leu	Ile
	115				120				120			125			
Gly	Asp	Asn	Gly	Val	Leu	Ala	Cys	Ala	Ile	Ala	Thr	His	Gly	Lys	Ile
	130				135				135			140			

Arg Asp
145

<210> 75
<211> 259
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)

<400> 75
Met Met Ile Leu Thr Ile Val Val Leu Leu Ala Ala Asn Ile Leu Ala
1 5 10 15
Thr Pro Ile Leu Pro Ser Ser Pro Asn Ala Thr Ile Val Gly Gly Val
20 25 30
Lys Ala Gln Ala Gly Asp Cys Pro Tyr Gln Ile Ser Leu Gln Ser Ser
35 40 45
Ser His Phe Cys Gly Gly Ser Ile Leu Asp Glu Tyr Trp Ile Leu Thr
50 55 60
Ala Ala His Cys Val Asn Gly Gln Ser Ala Lys Lys Leu Ser Ile Arg
65 70 75 80
Tyr Asn Thr Leu Lys His Ala Ser Gly Gly Glu Lys Ile Gln Val Ala
85 90 95
Glu Ile Tyr His Glu Asn Tyr Asp Ser Met Thr Ile Asp Asn Asp
100 105 110
Val Ala Leu Ile Lys Leu Lys Thr Pro Met Thr Leu Asp Gln Thr Asn
115 120 125
Ala Lys Pro Val Pro Leu Pro Ala Gln Gly Ser Asp Val Lys Val Gly
130 135 140
Asp Lys Ile Arg Val Ser Gly Trp Gly Tyr Leu Gln Glu Gly Ser Tyr
145 150 155 160
Ser Leu Pro Ser Glu Leu Gln Arg Val Asp Ile Asp Val Val Ser Arg
165 170 175
Glu Gln Cys Asp Gln Leu Tyr Ser Lys Ala Gly Ala Asp Val Ser Glu
180 185 190
Asn Met Ile Cys Gly Asp Val Ala Asn Gly Gly Val Asp Ser Cys
195 200 205
Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Ala Thr Lys Gln Ile
210 215 220
Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly Tyr Pro
225 230 235 240
Gly Val Tyr Thr Arg Val Gly Asn Phe Val Asp Trp Ile Glu Ser Lys
245 250 255
Arg Ser Gln

<210> 76
<211> 20
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)

<400> 76
Ala Val Gly Gly Gln Asp Ala Asp Leu Ala Glu Ala Pro Phe Gln Ile
1 5 10 15
Ser Leu Leu Lys
20

<210> 77
<211> 213
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)

<400> 77

Met	Met	Lys	Phe	Leu	Leu	Ile	Ala	Ala	Val	Ala	Phe	Val	Ala	Val	Ser
1				5					10					15	
Ala	Asp	Pro	Ile	His	Tyr	Asp	Lys	Ile	Thr	Glu	Glu	Ile	Asn	Lys	Ala
				20				25					30		
Ile	Asp	Asp	Ala	Ile	Ala	Ala	Ile	Glu	Gln	Ser	Glu	Thr	Ile	Asp	Pro
				35				40				45			
Met	Lys	Val	Pro	Asp	His	Ala	Asp	Lys	Phe	Glu	Arg	His	Val	Gly	Ile
					50			55			60				
Val	Asp	Phe	Lys	Gly	Glu	Leu	Ala	Met	Arg	Asn	Ile	Glu	Ala	Arg	Gly
				65		70			75				80		
Leu	Lys	Gln	Met	Lys	Arg	Gln	Gly	Asp	Ala	Asn	Val	Lys	Gly	Glu	Glu
					85			90				95			
Gly	Ile	Val	Lys	Ala	His	Leu	Leu	Ile	Gly	Val	His	Asp	Asp	Ile	Val
				100				105			110				
Ser	Met	Glu	Tyr	Asp	Leu	Ala	Tyr	Lys	Leu	Gly	Asp	Leu	His	Pro	Thr
				115				120			125				
Thr	His	Val	Ile	Ser	Asp	Ile	Gln	Asp	Phe	Val	Val	Ala	Leu	Ser	Leu
				130			135			140					
Glu	Ile	Ser	Asp	Glu	Gly	Asn	Ile	Thr	Met	Thr	Ser	Phe	Glu	Val	Arg
				145		150			155				160		
Gln	Phe	Ala	Asn	Val	Val	Asn	His	Ile	Gly	Gly	Leu	Ser	Ile	Leu	Asp
					165			170			175				
Pro	Ile	Phe	Gly	Val	Leu	Ser	Asp	Val	Leu	Thr	Ala	Ile	Phe	Gln	Asp
				180			185			190					
Thr	Val	Arg	Lys	Glu	Met	Thr	Lys	Val	Leu	Ala	Pro	Ala	Phe	Lys	Arg
				195			200			205					
Glu	Leu	Glu	Lys	Asn											
				210											

<210> 78
<211> 30
<212> PRT
<213> Dermatophagoides microceras (House-dust mite)

<400> 78

Thr	Gln	Ala	Cys	Arg	Ile	Asn	Ser	Gly	Asn	Val	Pro	Ser	Glu	Leu	Asp
1					5				10				15		
Leu	Arg	Ser	Leu	Arg	Thr	Val	Thr	Pro	Ile	Arg	Met	Gln	Gly		
					20			25			30				

<210> 79
<211> 320
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 79

Met	Lys	Ile	Val	Leu	Ala	Ile	Ala	Ser	Leu	Leu	Ala	Leu	Ser	Ala	Val
1				5					10				15		

Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala
 20 25 30
 Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
 35 40 45
 Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
 50 55 60
 Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu
 65 70 75 80
 Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn
 85 90 95
 Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile
 100 105 110
 Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly
 115 120 125
 Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala
 130 135 140
 Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu
 145 150 155 160
 Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg
 165 170 175
 Gly Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr
 180 185 190
 Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg
 195 200 205
 Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys
 210 215 220
 Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile
 225 230 235 240
 Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile
 245 250 255
 Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile
 260 265 270
 Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn
 275 280 285
 Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala
 290 295 300
 Asn Ile Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu
 305 310 315 320

<210> 80
 <211> 146
 <212> PRT
 <213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 80
 Met Met Tyr Lys Ile Leu Cys Leu Ser Leu Leu Val Ala Ala Val Ala
 1 5 10 15
 Arg Asp Gln Val Asp Val Lys Asp Cys Ala Asn His Glu Ile Lys Lys
 20 25 30
 Val Leu Val Pro Gly Cys His Gly Ser Glu Pro Cys Ile Ile His Arg
 35 40 45
 Gly Lys Pro Phe Gln Leu Glu Ala Val Phe Glu Ala Asn Gln Asn Thr
 50 55 60
 Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Ile Asp Gly Leu Glu Val
 65 70 75 80
 Asp Val Pro Gly Ile Asp Pro Asn Ala Cys His Tyr Met Lys Cys Pro

	85	90	95
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro			
100	105	110	
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Val Met			
115	120	125	
Gly Asp Asp Gly Val Leu Ala Cys Ala Ile Ala Thr His Ala Lys Ile			
130	135	140	
Arg Asp			
145			

<210> 81
<211> 261
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

	400	81	
Met Ile Ile Tyr Asn Ile Leu Ile Val Leu Leu Leu Ala Ile Asn Thr			
1	5	10	15
Leu Ala Asn Pro Ile Leu Pro Ala Ser Pro Asn Ala Thr Ile Val Gly			
20	25	30	
Gly Glu Lys Ala Leu Ala Gly Glu Cys Pro Tyr Gln Ile Ser Leu Gln			
35	40	45	
Ser Ser Ser His Phe Cys Gly Gly Thr Ile Leu Asp Glu Tyr Trp Ile			
50	55	60	
Leu Thr Ala Ala His Cys Val Ala Gly Gln Thr Ala Ser Lys Leu Ser			
65	70	75	80
Ile Arg Tyr Asn Ser Leu Lys His Ser Leu Gly Gly Glu Lys Ile Ser			
85	90	95	
Val Ala Lys Ile Phe Ala His Glu Lys Tyr Asp Ser Tyr Gln Ile Asp			
100	105	110	
Asn Asp Ile Ala Leu Ile Lys Leu Lys Ser Pro Met Lys Leu Asn Gln			
115	120	125	
Lys Asn Ala Lys Ala Val Gly Leu Pro Ala Lys Gly Ser Asp Val Lys			
130	135	140	
Val Gly Asp Gln Val Arg Val Ser Gly Trp Gly Tyr Leu Glu Glu Gly			
145	150	155	160
Ser Tyr Ser Leu Pro Ser Glu Leu Arg Arg Val Asp Ile Ala Val Val			
165	170	175	
Ser Arg Lys Glu Cys Asn Glu Leu Tyr Ser Lys Ala Asn Ala Glu Val			
180	185	190	
Thr Asp Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Lys Asp			
195	200	205	
Ser Cys Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Lys Asn Asn			
210	215	220	
Gln Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly			
225	230	235	240
Tyr Pro Gly Val Tyr Thr Arg Val Gly Asn Phe Ile Asp Trp Ile Glu			
245	250	255	
Ser Lys Arg Ser Gln			
260			

<210> 82
<211> 19
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<220>
<221> UNSURE
<222> 3, 16
<223> Xaa = any amino acid

<400> 82
Lys Tyr Xaa Asn Pro His Phe Ile Gly Xaa Arg Ser Val Ile Thr Xaa
1 5 10 15
Leu Met Glu

<210> 83
<211> 132
<212> PRT
<213> Dermatophagooides pteronyssinus (House-dust mite)

<400> 83
Met Lys Phe Ile Ile Ala Phe Phe Val Ala Thr Leu Ala Val Met Thr
1 5 10 15
Val Ser Gly Glu Asp Lys Lys His Asp Tyr Gln Asn Glu Phe Asp Phe
20 25 30
Leu Leu Met Glu Arg Ile His Glu Gln Ile Lys Lys Gly Glu Leu Ala
35 40 45
Leu Phe Tyr Leu Gln Glu Gln Ile Asn His Phe Glu Glu Lys Pro Thr
50 55 60
Lys Glu Met Lys Asp Lys Ile Val Ala Glu Met Asp Thr Ile Ile Ala
65 70 75 80
Met Ile Asp Gly Val Arg Gly Val Leu Asp Arg Leu Met Gln Arg Lys
85 90 95
Asp Leu Asp Ile Phe Glu Gln Tyr Asn Leu Glu Met Ala Lys Lys Ser
100 105 110
Gly Asp Ile Leu Glu Arg Asp Leu Lys Lys Glu Glu Ala Arg Val Lys
115 120 125
Lys Ile Glu Val
130

<210> 84
<211> 20
<212> PRT
<213> Dermatophagooides pteronyssinus (House-dust mite)

<220>
<221> UNSURE
<222> 4
<223> Xaa = any amino acid

<400> 84
Ala Ile Gly Xaa Gln Pro Ala Ala Glu Ala Glu Ala Pro Phe Gln Ile
1 5 10 15
Ser Leu Met Lys
20

<210> 85

<211> 215
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 85

Met	Met	Lys	Leu	Leu	Ile	Ala	Ala	Ala	Phe	Val	Ala	Val	Ser		
1		5				10					15				
Ala	Asp	Pro	Ile	His	Tyr	Asp	Lys	Ile	Thr	Glu	Glu	Ile	Asn	Lys	Ala
			20				25					30			
Val	Asp	Glu	Ala	Val	Ala	Ile	Glu	Lys	Ser	Glu	Thr	Phe	Asp	Pro	
			35			40					45				
Met	Lys	Val	Pro	Asp	His	Ser	Asp	Lys	Phe	Glu	Arg	His	Ile	Gly	Ile
			50			55				60					
Ile	Asp	Leu	Lys	Gly	Glu	Leu	Asp	Met	Arg	Asn	Ile	Gln	Val	Arg	Gly
			65			70			75			80			
Leu	Lys	Gln	Met	Lys	Arg	Val	Gly	Asp	Ala	Asn	Val	Lys	Ser	Glu	Asp
				85			90					95			
Gly	Val	Val	Lys	Ala	His	Leu	Leu	Val	Gly	Val	His	Asp	Asp	Val	Val
			100				105				110				
Ser	Met	Glu	Tyr	Asp	Leu	Ala	Tyr	Lys	Leu	Gly	Asp	Leu	His	Pro	Asn
			115				120				125				
Thr	His	Val	Ile	Ser	Asp	Ile	Gln	Asp	Phe	Val	Val	Glu	Leu	Ser	Leu
			130				135				140				
Glu	Val	Ser	Glu	Glu	Gly	Asn	Met	Thr	Leu	Thr	Ser	Phe	Glu	Val	Arg
			145			150				155			160		
Gln	Phe	Ala	Asn	Val	Val	Asn	His	Ile	Gly	Gly	Leu	Ser	Ile	Leu	Asp
				165				170				175			
Pro	Ile	Phe	Ala	Val	Leu	Ser	Asp	Val	Leu	Thr	Ala	Ile	Phe	Gln	Asp
				180				185				190			
Thr	Val	Arg	Ala	Glu	Met	Thr	Lys	Val	Leu	Ala	Pro	Ala	Phe	Lys	Lys
			195				200				205				
Glu	Leu	Glu	Arg	Asn	Asn	Gln									
			210			215									

<210> 86
<211> 203
<212> PRT
<213> Dolichovespula arenaria (Yellow hornet)

<400> 86

Asn	Asn	Tyr	Cys	Lys	Ile	Cys	Pro	Lys	Gly	Thr	His	Thr	Leu	Cys	Lys
1			5				10				15				
Tyr	Gly	Thr	Ser	Met	Lys	Pro	Asn	Cys	Gly	Gly	Lys	Ile	Val	Lys	Ser
			20				25				30				
Tyr	Gly	Val	Thr	Asn	Asp	Glu	Lys	Asn	Glu	Ile	Val	Lys	Arg	His	Asn
			35			40				45					
Glu	Phe	Arg	Gln	Lys	Val	Ala	Gln	Gly	Leu	Glu	Thr	Arg	Gly	Asn	Pro
			50			55			60						
Gly	Pro	Gln	Pro	Pro	Ala	Lys	Asn	Met	Asn	Leu	Leu	Val	Trp	Asn	Asp
			65			70			75			80			
Glu	Leu	Ala	Lys	Ile	Ala	Gln	Thr	Trp	Ala	Asn	Gln	Cys	Asn	Phe	Gly
				85			90				95				
His	Asp	Gln	Cys	Arg	Asn	Thr	Ala	Lys	Tyr	Pro	Val	Gly	Gln	Asn	Val
				100			105				110				
Ala	Ile	Ala	Ser	Thr	Thr	Gly	Asn	Ser	Tyr	Gln	Thr	Met	Ser	Tyr	Leu
			115			120				125					

Ile Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro His Lys Asp
 130 135 140
 Leu Met His Asn Asn Phe Ser Lys Val Gly His Tyr Thr Gln Met Val
 145 150 155 160
 Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys Tyr Ile Glu
 165 170 175
 Asn Lys Trp His Thr His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly
 180 185 190
 Asn Tyr Met Asn Gln Pro Val Tyr Glu Arg Lys
 195 200

<210> 87
 <211> 317
 <212> PRT
 <213> Dolichovespula maculata (White-face hornet)

<400> 87
 Arg Leu Ile Met Phe Val Gly Asp Pro Ser Ser Ser Asn Glu Leu Asp
 1 5 10 15
 Arg Phe Ser Val Cys Pro Phe Ser Asn Asp Thr Val Lys Met Ile Phe
 20 25 30
 Leu Thr Arg Glu Asn Arg Lys His Asp Phe Tyr Thr Leu Asp Thr Met
 35 40 45
 Asn Arg His Asn Glu Phe Lys Lys Ser Ile Ile Lys Arg Pro Val Val
 50 55 60
 Phe Ile Thr His Gly Phe Thr Ser Ser Ala Thr Glu Lys Asn Phe Val
 65 70 75 80
 Ala Met Ser Glu Ala Leu Met His Thr Gly Asp Phe Leu Ile Ile Met
 85 90 95
 Val Asp Trp Arg Met Ala Ala Cys Thr Asp Glu Tyr Pro Gly Leu Lys
 100 105 110
 Tyr Met Phe Tyr Lys Ala Ala Val Gly Asn Thr Arg Leu Val Gly Asn
 115 120 125
 Phe Ile Ala Met Ile Ala Lys Lys Leu Val Glu Gln Tyr Lys Val Pro
 130 135 140
 Met Thr Asn Ile Arg Leu Val Gly His Ser Leu Gly Ala His Ile Ser
 145 150 155 160
 Gly Phe Ala Gly Lys Arg Val Gln Glu Leu Lys Leu Gly Lys Phe Ser
 165 170 175
 Glu Ile Ile Gly Leu Asp Pro Ala Gly Pro Ser Phe Lys Lys Asn Asp
 180 185 190
 Cys Ser Glu Arg Ile Cys Glu Thr Asp Ala His Tyr Val Gln Ile Leu
 195 200 205
 His Thr Ser Ser Asn Leu Gly Thr Glu Arg Thr Leu Gly Thr Val Asp
 210 215 220
 Phe Tyr Ile Asn Asn Gly Ser Asn Gln Pro Gly Cys Arg Tyr Ile Ile
 225 230 235 240
 Gly Glu Thr Cys Ser His Thr Arg Ala Val Lys Tyr Phe Thr Glu Cys
 245 250 255
 Ile Arg Arg Glu Cys Cys Leu Ile Gly Val Pro Gln Ser Lys Asn Pro
 260 265 270
 Gln Pro Val Ser Lys Cys Thr Arg Asn Glu Cys Val Cys Val Gly Leu
 275 280 285
 Asn Ala Lys Lys Tyr Pro Lys Arg Gly Ser Phe Tyr Val Pro Val Glu
 290 295 300
 Ala Glu Ala Pro Tyr Cys Asn Asn Gly Lys Ile Ile

305

310

315

<210> 88
<211> 303
<212> PRT
<213> Dolichovespula maculata (White-face hornet)

<400> 88

Gly	Ile	Leu	Pro	Glu	Cys	Lys	Leu	Val	Pro	Glu	Glu	Ile	Ser	Phe	Val
1									5		10				15
Leu	Ser	Thr	Arg	Glu	Asn	Arg	Asp	Gly	Val	Tyr	Leu	Thr	Leu	Gln	Lys
									20		25				30
Leu	Lys	Asn	Gly	Lys	Met	Phe	Lys	Asn	Ser	Asp	Leu	Ser	Ser	Lys	Lys
							35		40				45		
Val	Pro	Phe	Leu	Ile	His	Gly	Phe	Ile	Ser	Ser	Ala	Thr	Asn	Lys	Asn
							50		55			60			
Tyr	Ala	Asp	Met	Thr	Arg	Ala	Leu	Leu	Asp	Lys	Asp	Asp	Ile	Met	Val
							65		70		75				80
Ile	Ser	Ile	Asp	Trp	Arg	Asp	Gly	Ala	Cys	Ser	Asn	Glu	Phe	Ala	Leu
							85		90				95		
Leu	Lys	Phe	Ile	Gly	Tyr	Pro	Lys	Ala	Val	Glu	Asn	Thr	Arg	Ala	Val
							100		105				110		
Gly	Lys	Tyr	Ile	Ala	Asp	Phe	Ser	Lys	Ile	Leu	Ile	Gln	Lys	Tyr	Lys
							115		120			125			
Val	Leu	Leu	Glu	Asn	Ile	Arg	Leu	Ile	Gly	His	Ser	Leu	Gly	Ala	Gln
							130		135			140			
Ile	Ala	Gly	Phe	Ala	Gly	Lys	Glu	Phe	Gln	Arg	Phe	Lys	Leu	Gly	Lys
							145		150		155				160
Tyr	Pro	Glu	Ile	Ile	Gly	Leu	Asp	Pro	Ala	Gly	Pro	Ser	Phe	Lys	Lys
							165		170				175		
Lys	Asp	Cys	Pro	Glu	Arg	Ile	Cys	Glu	Thr	Asp	Ala	His	Tyr	Val	Gln
							180		185			190			
Ile	Leu	His	Thr	Ser	Ser	Asn	Leu	Gly	Thr	Glu	Arg	Thr	Leu	Gly	Thr
							195		200			205			
Val	Asp	Phe	Tyr	Ile	Asn	Asp	Gly	Ser	Asn	Gln	Pro	Gly	Cys	Thr	Tyr
							210		215			220			
Ile	Ile	Gly	Glu	Thr	Cys	Ser	His	Thr	Arg	Ala	Val	Lys	Tyr	Leu	Thr
							225		230		235				240
Glu	Cys	Ile	Arg	Arg	Glu	Cys	Cys	Leu	Ile	Gly	Val	Pro	Gln	Ser	Lys
							245		250				255		
Asn	Pro	Gln	Pro	Val	Ser	Lys	Cys	Thr	Arg	Asn	Glu	Cys	Val	Cys	Val
							260		265			270			
Gly	Leu	Asn	Ala	Lys	Glu	Tyr	Pro	Lys	Lys	Gly	Ser	Phe	Tyr	Val	Pro
							275		280			285			
Val	Glu	Ala	Lys	Ala	Pro	Phe	Cys	Asn	Asn	Gly	Lys	Ile	Ile		
							290		295			300			

<210> 89
<211> 331
<212> PRT
<213> Dolichovespula maculata (White-face hornet)

<400> 89

Ser	Glu	Arg	Pro	Lys	Arg	Val	Phe	Asn	Ile	Tyr	Trp	Asn	Val	Pro	Thr
1							5			10			15		

Phe Met Cys His Gln Tyr Gly Leu Tyr Phe Asp Glu Val Thr Asn Phe
 20 25 30
 Asn Ile Lys His Asn Ser Lys Asp Asp Phe Gln Gly Asp Lys Ile Ser
 35 40 45
 Ile Phe Tyr Asp Pro Gly Glu Phe Pro Ala Leu Leu Pro Leu Lys Glu
 50 55 60
 Gly Asn Tyr Lys Ile Arg Asn Gly Gly Val Pro Gln Glu Gly Asn Ile
 65 70 80
 Thr Ile His Leu Gln Arg Phe Ile Glu Asn Leu Asp Lys Thr Tyr Pro
 85 90 95
 Asn Arg Asn Phe Asn Gly Ile Gly Val Ile Asp Phe Glu Arg Trp Arg
 100 105 110
 Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Met Ile His Lys Lys Phe
 115 120 125
 Ser Ile Asp Leu Val Arg Asn Glu His Pro Phe Trp Asp Lys Lys Met
 130 135 140
 Ile Glu Leu Glu Ala Ser Lys Arg Phe Glu Lys Tyr Ala Arg Leu Phe
 145 150 160
 Met Glu Glu Thr Leu Lys Leu Ala Lys Lys Thr Arg Lys Gln Ala Asp
 165 170 175
 Trp Gly Tyr Tyr Gly Tyr Pro Tyr Cys Phe Asn Met Ser Pro Asn Asn
 180 185 190
 Leu Val Pro Asp Cys Asp Ala Thr Ala Met Leu Glu Asn Asp Lys Met
 195 200 205
 Ser Trp Leu Phe Asn Asn Gln Asn Val Leu Leu Pro Ser Val Tyr Ile
 210 215 220
 Arg His Glu Leu Thr Pro Asp Gln Arg Val Gly Leu Val Gln Gly Arg
 225 230 240
 Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys
 245 250 255
 Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Asp Thr Asn Thr Phe
 260 265 270
 Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Ala Ile Asn
 275 280 285
 Gly Gly Asp Gly Ile Ile Trp Gly Ser Ser Ser Asp Val Asn Ser
 290 295 300
 Leu Ser Lys Cys Lys Arg Leu Arg Glu Tyr Leu Leu Thr Val Leu Gly
 305 310 320
 Pro Ile Thr Val Asn Val Thr Glu Thr Val Asn
 325 330

<210> 90
 <211> 227
 <212> PRT
 <213> Dolichovespula maculata (White-face hornet)

<400> 90
 Met Glu Ile Gly Gly Leu Val Tyr Leu Ile Leu Ile Thr Ile Ile
 1 5 10 15
 Asn Leu Ser Phe Gly Glu Thr Asn Asn Tyr Cys Lys Ile Lys Cys Arg
 20 25 30
 Lys Gly Ile His Thr Leu Cys Lys Phe Gly Thr Ser Met Lys Pro Asn
 35 40 45
 Cys Gly Arg Asn Val Val Lys Ala Tyr Gly Leu Thr Asn Asp Glu Lys
 50 55 60
 Asn Glu Ile Leu Lys Arg His Asn Asp Phe Arg Gln Asn Val Ala Lys

65	70	75	80
Gly Leu Glu Thr Arg Gly Lys Pro Gly Pro Gln Pro Pro Ala Lys Asn			
85	90	95	
Met Asn Val Leu Val Trp Asn Asp Glu Leu Ala Lys Ile Ala Gln Thr			
100	105	110	
Trp Ala Asn Gln Cys Asp Phe Asn His Asp Asp Cys Arg Asn Thr Ala			
115	120	125	
Lys Tyr Gln Val Gly Gln Asn Ile Ala Ile Ser Ser Thr Thr Ala Thr			
130	135	140	
Gln Phe Asp Arg Pro Ser Lys Leu Ile Lys Gln Trp Glu Asp Glu Val			
145	150	155	160
Thr Glu Phe Asn Tyr Lys Val Gly Leu Gln Asn Ser Asn Phe Arg Lys			
165	170	175	
Val Gly His Tyr Thr Gln Met Val Trp Gly Lys Thr Lys Glu Ile Gly			
180	185	190	
Cys Gly Ser Ile Lys Tyr Ile Glu Asp Asn Trp Tyr Thr His Tyr Leu			
195	200	205	
Val Cys Asn Tyr Gly Pro Gly Gly Asn Asp Phe Asn Gln Pro Ile Tyr			
210	215	220	
Glu Arg Lys			
225			

<210> 91
<211> 215
<212> PRT
<213> Dolichovespula maculata (White-face hornet)

<400> 91			
Pro Ile Ile Asn Leu Ser Phe Gly Glu Ala Asn Asn Tyr Cys Lys Ile			
1	5	10	15
Lys Cys Ser Arg Gly Ile His Thr Leu Cys Lys Phe Gly Thr Ser Met			
20	25	30	
Lys Pro Asn Cys Gly Ser Lys Leu Val Lys Val His Gly Val Ser Asn			
35	40	45	
Asp Glu Lys Asn Glu Ile Val Asn Arg His Asn Gln Phe Arg Gln Lys			
50	55	60	
Val Ala Lys Gly Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro			
65	70	75	80
Ala Lys Asn Met Asn Val Leu Val Trp Asn Asp Glu Leu Ala Lys Ile			
85	90	95	
Ala Gln Thr Trp Ala Asn Gln Cys Ser Phe Gly His Asp Gln Cys Arg			
100	105	110	
Asn Thr Glu Lys Tyr Gln Val Gly Gln Asn Val Ala Ile Ala Ser Thr			
115	120	125	
Thr Gly Asn Ser Tyr Ala Thr Met Ser Lys Leu Ile Glu Met Trp Glu			
130	135	140	
Asn Glu Val Lys Asp Phe Asn Pro Lys Lys Gly Thr Met Gly Asp Asn			
145	150	155	160
Asn Phe Ser Lys Val Gly His Tyr Thr Gln Met Val Trp Gly Lys Thr			
165	170	175	
Lys Glu Ile Gly Cys Gly Ser Val Lys Tyr Ile Glu Asn Asn Trp His			
180	185	190	
Thr His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn Tyr Met Asp			
195	200	205	
Gln Pro Ile Tyr Glu Arg Lys			
210	215		

<210> 92
<211> 187
<212> PRT
<213> Equus caballus (Horse)

<400> 92

Met	Lys	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Ile	Leu	Val	Cys	Ala	Gln	
1					5				10				15		
Gln	Glu	Glu	Asn	Ser	Asp	Val	Ala	Ile	Arg	Asn	Phe	Asp	Ile	Ser	Lys
					20				25				30		
Ile	Ser	Gly	Glu	Trp	Tyr	Ser	Ile	Phe	Leu	Ala	Ser	Asp	Val	Lys	Glu
					35				40			45			
Lys	Ile	Glu	Glu	Asn	Gly	Ser	Met	Arg	Val	Phe	Val	Asp	Val	Ile	Arg
					50				55			60			
Ala	Leu	Asp	Asn	Ser	Ser	Leu	Tyr	Ala	Glu	Tyr	Gln	Thr	Lys	Val	Asn
					65				70		75		80		
Gly	Glu	Cys	Thr	Glu	Phe	Pro	Met	Val	Phe	Asp	Lys	Thr	Glu	Glu	Asp
					85				90			95			
Gly	Val	Tyr	Ser	Leu	Asn	Tyr	Asp	Gly	Tyr	Asn	Val	Phe	Arg	Ile	Ser
					100				105			110			
Glu	Phe	Glu	Asn	Asp	Glu	His	Ile	Ile	Leu	Tyr	Leu	Val	Asn	Phe	Asp
					115				120			125			
Lys	Asp	Arg	Pro	Phe	Gln	Leu	Phe	Glu	Phe	Tyr	Ala	Arg	Glu	Pro	Asp
					130				135			140			
Val	Ser	Pro	Glu	Ile	Lys	Glu	Glu	Phe	Val	Lys	Ile	Val	Gln	Lys	Arg
					145				150			155			160
Gly	Ile	Val	Lys	Glu	Asn	Ile	Ile	Asp	Leu	Thr	Lys	Ile	Asp	Arg	Cys
					165				170			175			
Phe	Gln	Leu	Arg	Gly	Asn	Gly	Val	Ala	Gln	Ala					
					180				185						

<210> 93
<211> 29
<212> PRT
<213> Equus caballus (Horse)

<220>
<221> UNSURE
<222> 3, 28
<223> Xaa = any amino acid

<400> 93

Ser	Gln	Xaa	Pro	Gln	Ser	Glu	Thr	Asp	Tyr	Ser	Gln	Leu	Ser	Gly	Glu
1					5				10				15		
Trp	Asn	Thr	Ile	Tyr	Gly	Ala	Ala	Ser	Asn	Ile	Xaa	Lys			
					20				25						

<210> 94
<211> 19
<212> PRT
<213> Equus caballus (Horse)

<220>

<221> UNSURE

<222> 1

<223> Xaa = any amino acid

<400> 94

Xaa Gln Asp Pro Gln Ser Glu Thr Asp Tyr Ser Gln Leu Ser Gly Glu
1 5 10 15
Trp Asn Thr

<210> 95

<211> 211

<212> PRT

<213> Euroglyphus maynei (House-dust mite)

<400> 95

Thr Tyr Ala Cys Ser Ile Asn Ser Val Ser Leu Pro Ser Glu Leu Asp
1 5 10 15
Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys
20 25 30
Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ser Thr Glu Ser Ala Tyr
35 40 45
Leu Ala Tyr Arg Asn Met Ser Leu Asp Leu Ala Glu Gln Glu Leu Val
50 55 60
Asp Cys Ala Ser Gln Asn Gly Cys His Gly Asp Thr Ile Pro Arg Gly
65 70 75 80
Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Gln Glu His Tyr Tyr Pro
85 90 95
Tyr Val Ala Arg Glu Gln Ser Cys His Arg Pro Asn Ala Gln Arg Tyr
100 105 110
Gly Leu Lys Asn Tyr Cys Gln Ile Ser Pro Pro Asp Ser Asn Lys Ile
115 120 125
Arg Gln Ala Leu Thr Gln Thr His Thr Ala Val Ala Val Ile Ile Gly
130 135 140
Ile Lys Asp Leu Asn Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Met
145 150 155 160
Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val
165 170 175
Gly Tyr Gly Asn Thr Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser
180 185 190
Trp Asp Thr Thr Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn
195 200 205
Ile Asn Leu
210

<210> 96

<211> 92

<212> PRT

<213> Felis silvestris catus (Cat)

<400> 96

Met Lys Gly Ala Cys Val Leu Val Leu Leu Trp Ala Ala Leu Leu Leu
1 5 10 15
Ile Ser Gly Gly Asn Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val
20 25 30

Asp Leu Phe Leu Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala
35 40 45
Gln Tyr Lys Ala Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys
50 55 60
Asn Cys Val Asp Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu
65 70 75 80
Ser Val Leu Asp Lys Ile Tyr Thr Ser Pro Leu Cys
85 90

<210> 97
<211> 88
<212> PRT
<213> Felis silvestris catus (Cat)

<400> 97
Met Leu Asp Ala Ala Leu Pro Pro Cys Pro Thr Val Ala Ala Thr Ala
1 5 10 15
Asp Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val Asp Leu Phe Leu
20 25 30
Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala Gln Tyr Lys Ala
35 40 45
Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys Asn Cys Val Asp
50 55 60
Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu Ser Val Leu Asp
65 70 75 80
Lys Ile Tyr Thr Ser Pro Leu Cys
85

<210> 98
<211> 109
<212> PRT
<213> Felis silvestris catus (Cat)

<400> 98
Met Arg Gly Ala Leu Leu Val Leu Ala Leu Leu Val Thr Gln Ala Leu
1 5 10 15
Gly Val Lys Met Ala Glu Thr Cys Pro Ile Phe Tyr Asp Val Phe Phe
20 25 30
Ala Val Ala Asn Gly Asn Glu Leu Leu Leu Asp Leu Ser Leu Thr Lys
35 40 45
Val Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys Ile Gln Asp
50 55 60
Cys Tyr Val Glu Asn Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val
65 70 75 80
Met Thr Thr Ile Ser Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln
85 90 95
Asn Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg
100 105

<210> 99
<211> 113
<212> PRT
<213> Gadus callarias (Baltic cod)

<400> 99
Ala Phe Lys Gly Ile Leu Ser Asn Ala Asp Ile Lys Ala Ala Glu Ala
1 5 10 15
Ala Cys Phe Lys Glu Gly Ser Phe Asp Glu Asp Gly Phe Tyr Ala Lys
20 25 30
Val Gly Leu Asp Ala Phe Ser Ala Asp Glu Leu Lys Lys Leu Phe Lys
35 40 45
Ile Ala Asp Glu Asp Lys Glu Gly Phe Ile Glu Glu Asp Glu Leu Lys
50 55 60
Leu Phe Leu Ile Ala Phe Ala Ala Asp Leu Arg Ala Leu Thr Asp Ala
65 70 75 80
Glu Thr Lys Ala Phe Leu Lys Ala Gly Asp Ser Asp Gly Asp Gly Lys
85 90 95
Ile Gly Val Asp Glu Phe Gly Ala Leu Val Asp Lys Trp Gly Ala Lys
100 105 110
Gly

<210> 100
<211> 210
<212> PRT
<213> Gallus gallus (Chicken)

<400> 100
Met Ala Met Ala Gly Val Phe Val Leu Phe Ser Phe Val Leu Cys Gly
1 5 10 15
Phe Leu Pro Asp Ala Ala Phe Gly Ala Glu Val Asp Cys Ser Arg Phe
20 25 30
Pro Asn Ala Thr Asp Lys Glu Gly Lys Asp Val Leu Val Cys Asn Lys
35 40 45
Asp Leu Arg Pro Ile Cys Gly Thr Asp Gly Val Thr Tyr Thr Asn Asp
50 55 60
Cys Leu Leu Cys Ala Tyr Ser Ile Glu Phe Gly Thr Asn Ile Ser Lys
65 70 75 80
Glu His Asp Gly Glu Cys Lys Glu Thr Val Pro Met Asn Cys Ser Ser
85 90 95
Tyr Ala Asn Thr Thr Ser Glu Asp Gly Lys Val Met Val Leu Cys Asn
100 105 110
Arg Ala Phe Asn Pro Val Cys Gly Thr Asp Gly Val Thr Tyr Asp Asn
115 120 125
Glu Cys Leu Leu Cys Ala His Lys Val Glu Gln Gly Ala Ser Val Asp
130 135 140
Lys Arg His Asp Gly Gly Cys Arg Lys Glu Leu Ala Ala Val Ser Val
145 150 155 160
Asp Cys Ser Glu Tyr Pro Lys Pro Asp Cys Thr Ala Glu Asp Arg Pro
165 170 175
Leu Cys Gly Ser Asp Asn Lys Thr Tyr Gly Asn Lys Cys Asn Phe Cys
180 185 190
Asn Ala Val Val Glu Ser Asn Gly Thr Leu Thr Leu Ser His Phe Gly
195 200 205
Lys Cys
210

<210> 101
<211> 385

<212> PRT

<213> Gallus gallus (Chicken)

<400> 101

Gly Ser Ile Gly Ala Ala Ser Met Glu Phe Cys Phe Asp Val Phe Lys
1 5 10 15
Glu Leu Lys Val His His Ala Asn Glu Asn Ile Phe Tyr Cys Pro Ile
20 25 30
Ala Ile Met Ser Ala Leu Ala Met Val Tyr Leu Gly Ala Lys Asp Ser
35 40 45
Thr Arg Thr Gln Ile Asn Lys Val Val Arg Phe Asp Lys Leu Pro Gly
50 55 60
Phe Gly Asp Ser Ile Glu Ala Gln Cys Gly Thr Ser Val Asn Val His
65 70 75 80
Ser Ser Leu Arg Asp Ile Leu Asn Gln Ile Thr Lys Pro Asn Asp Val
85 90 95
Tyr Ser Phe Ser Leu Ala Ser Arg Leu Tyr Ala Glu Glu Arg Tyr Pro
100 105 110
Ile Leu Pro Glu Tyr Leu Gln Cys Val Lys Glu Leu Tyr Arg Gly Gly
115 120 125
Leu Glu Pro Ile Asn Phe Gln Thr Ala Ala Asp Gln Ala Arg Glu Leu
130 135 140
Ile Asn Ser Trp Val Glu Ser Gln Thr Asn Gly Ile Ile Arg Asn Val
145 150 155 160
Leu Gln Pro Ser Ser Val Asp Ser Gln Thr Ala Met Val Leu Val Asn
165 170 175
Ala Ile Val Phe Lys Gly Leu Trp Glu Lys Ala Phe Lys Asp Glu Asp
180 185 190
Thr Gln Ala Met Pro Phe Arg Val Thr Glu Gln Glu Ser Lys Pro Val
195 200 205
Gln Met Met Tyr Gln Ile Gly Leu Phe Arg Val Ala Ser Met Ala Ser
210 215 220
Glu Lys Met Lys Ile Leu Glu Leu Pro Phe Ala Ser Gly Thr Met Ser
225 230 235 240
Met Leu Val Leu Leu Pro Asp Glu Val Ser Gly Leu Glu Gln Leu Glu
245 250 255
Ser Ile Ile Asn Phe Glu Lys Leu Thr Glu Trp Thr Ser Ser Asn Val
260 265 270
Met Glu Glu Arg Lys Ile Lys Val Tyr Leu Pro Arg Met Lys Met Glu
275 280 285
Glu Lys Tyr Asn Leu Thr Ser Val Leu Met Ala Met Gly Ile Thr Asp
290 295 300
Val Phe Ser Ser Ser Ala Asn Leu Ser Gly Ile Ser Ser Ala Glu Ser
305 310 315 320
Leu Lys Ile Ser Gln Ala Val His Ala Ala His Ala Glu Ile Asn Glu
325 330 335
Ala Gly Arg Glu Val Val Gly Ser Ala Glu Ala Gly Val Asp Ala Ala
340 345 350
Ser Val Ser Glu Glu Phe Arg Ala Asp His Pro Phe Leu Phe Cys Ile
355 360 365
Lys His Ile Ala Thr Asn Ala Val Leu Phe Phe Gly Arg Cys Val Ser
370 375 380
Pro
385

<210> 102

<211> 705
<212> PRT
<213> Gallus gallus (Chicken)

<400> 102

Met Lys Leu Ile Leu Cys Thr Val Leu Ser Leu Gly Ile Ala Ala Val
1 5 10 15
Cys Phe Ala Ala Pro Pro Lys Ser Val Ile Arg Trp Cys Thr Ile Ser
20 25 30
Ser Pro Glu Glu Lys Lys Cys Asn Asn Leu Arg Asp Leu Thr Gln Gln
35 40 45
Glu Arg Ile Ser Leu Thr Cys Val Gln Lys Ala Thr Tyr Leu Asp Cys
50 55 60
Ile Lys Ala Ile Ala Asn Asn Glu Ala Asp Ala Ile Ser Leu Asp Gly
65 70 75 80
Gly Gln Ala Phe Glu Ala Gly Leu Ala Pro Tyr Lys Leu Lys Pro Ile
85 90 95
Ala Ala Glu Val Tyr Glu His Thr Glu Gly Ser Thr Thr Ser Tyr Tyr
100 105 110
Ala Val Ala Val Val Lys Lys Gly Thr Glu Phe Thr Val Asn Asp Leu
115 120 125
Gln Gly Lys Thr Ser Cys His Thr Gly Leu Gly Arg Ser Ala Gly Trp
130 135 140
Asn Ile Pro Ile Gly Thr Leu Leu His Arg Gly Ala Ile Glu Trp Glu
145 150 155 160
Gly Ile Glu Ser Gly Ser Val Glu Gln Ala Val Ala Lys Phe Phe Ser
165 170 175
Ala Ser Cys Val Pro Gly Ala Thr Ile Glu Gln Lys Leu Cys Arg Gln
180 185 190
Cys Lys Gly Asp Pro Lys Thr Lys Cys Ala Arg Asn Ala Pro Tyr Ser
195 200 205
Gly Tyr Ser Gly Ala Phe His Cys Leu Lys Asp Gly Lys Gly Asp Val
210 215 220
Ala Phe Val Lys His Thr Thr Val Asn Glu Asn Ala Pro Asp Gln Lys
225 230 235 240
Asp Glu Tyr Glu Leu Leu Cys Leu Asp Gly Ser Arg Gln Pro Val Asp
245 250 255
Asn Tyr Lys Thr Cys Asn Trp Ala Arg Val Ala Ala His Ala Val Val
260 265 270
Ala Arg Asp Asp Asn Lys Val Glu Asp Ile Trp Ser Phe Leu Ser Lys
275 280 285
Ala Gln Ser Asp Phe Gly Val Asp Thr Lys Ser Asp Phe His Leu Phe
290 295 300
Gly Pro Pro Gly Lys Lys Asp Pro Val Leu Lys Asp Leu Leu Phe Lys
305 310 315 320
Asp Ser Ala Ile Met Leu Lys Arg Val Pro Ser Leu Met Asp Ser Gln
325 330 335
Leu Tyr Leu Gly Phe Glu Tyr Tyr Ser Ala Ile Gln Ser Met Arg Lys
340 345 350
Asp Gln Leu Thr Pro Ser Pro Arg Glu Asn Arg Ile Gln Trp Cys Ala
355 360 365
Val Gly Lys Asp Glu Lys Ser Lys Cys Asp Arg Trp Ser Val Val Ser
370 375 380
Asn Gly Asp Val Glu Cys Thr Val Val Asp Glu Thr Lys Asp Cys Ile
385 390 395 400
Ile Lys Ile Met Lys Gly Glu Ala Asp Ala Val Ala Leu Asp Gly Gly
405 410 415

Leu Val Tyr Thr Ala Gly Val Cys Gly Leu Val Pro Val Met Ala Glu
 420 425 430
 Arg Tyr Asp Asp Glu Ser Gln Cys Ser Lys Thr Asp Glu Arg Pro Ala
 435 440 445
 Ser Tyr Phe Ala Val Ala Val Ala Arg Lys Asp Ser Asn Val Asn Trp
 450 455 460
 Asn Asn Leu Lys Gly Lys Lys Ser Cys His Thr Ala Val Gly Arg Thr
 465 470 475 480
 Ala Gly Trp Val Ile Pro Met Gly Leu Ile His Asn Arg Thr Gly Thr
 485 490 495
 Cys Asn Phe Asp Glu Tyr Phe Ser Glu Gly Cys Ala Pro Gly Ser Pro
 500 505 510
 Pro Asn Ser Arg Leu Cys Gln Leu Cys Gln Gly Ser Gly Gly Ile Pro
 515 520 525
 Pro Glu Lys Cys Val Ala Ser Ser His Glu Lys Tyr Phe Gly Tyr Thr
 530 535 540
 Gly Ala Leu Arg Cys Leu Val Glu Lys Gly Asp Val Ala Phe Ile Gln
 545 550 555 560
 His Ser Thr Val Glu Glu Asn Thr Gly Gly Lys Asn Lys Ala Asp Trp
 565 570 575
 Ala Lys Asn Leu Gln Met Asp Asp Phe Glu Leu Leu Cys Thr Asp Gly
 580 585 590
 Arg Arg Ala Asn Val Met Asp Tyr Arg Glu Cys Asn Leu Ala Glu Val
 595 600 605
 Pro Thr His Ala Val Val Val Arg Pro Glu Lys Ala Asn Lys Ile Arg
 610 615 620
 Asp Leu Leu Glu Arg Gln Glu Lys Arg Phe Gly Val Asn Gly Ser Glu
 625 630 635 640
 Lys Ser Lys Phe Met Met Phe Glu Ser Gln Asn Lys Asp Leu Leu Phe
 645 650 655
 Lys Asp Leu Thr Lys Cys Leu Phe Lys Val Arg Glu Gly Thr Thr Tyr
 660 665 670
 Lys Glu Phe Leu Gly Asp Lys Phe Tyr Thr Val Ile Ser Ser Leu Lys
 675 680 685
 Thr Cys Asn Pro Ser Asp Ile Leu Gln Met Cys Ser Phe Leu Glu Gly
 690 695 700
 Lys
 705

<210> 103
 <211> 147
 <212> PRT
 <213> Gallus gallus (Chicken)

<400> 103
 Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala
 1 5 10 15
 Leu Gly Lys Val Phe Gly Arg Cys Glu Leu Ala Ala Ala Met Lys Arg
 20 25 30
 His Gly Leu Asp Asn Tyr Arg Gly Tyr Ser Leu Gly Asn Trp Val Cys
 35 40 45
 Ala Ala Lys Phe Glu Ser Asn Phe Asn Thr Gln Ala Thr Asn Arg Asn
 50 55 60
 Thr Asp Gly Ser Thr Asp Tyr Gly Ile Leu Gln Ile Asn Ser Arg Trp
 65 70 75 80
 Trp Cys Asn Asp Gly Arg Thr Pro Gly Ser Arg Asn Leu Cys Asn Ile

	85	90	95												
Pro	Cys	Ser	Ala	Leu	Leu	Ser	Ser	Asp	Ile	Thr	Ala	Ser	Val	Asn	Cys
			100			105						110			
Ala	Lys	Lys	Ile	Val	Ser	Asp	Gly	Asn	Gly	Met	Asn	Ala	Trp	Val	Ala
			115			120				125					
Trp	Arg	Asn	Arg	Cys	Lys	Gly	Thr	Asp	Val	Gln	Ala	Trp	Ile	Arg	Gly
			130			135			140						
Cys	Arg	Leu													
		145													

<210> 104
<211> 133
<212> PRT
<213> Helianthus annuus (Common sunflower)

	400	104													
Met	Ser	Trp	Gln	Ala	Tyr	Val	Asp	Glu	His	Leu	Met	Cys	Asp	Ile	Glu
			1		5			10			15				
Gly	Thr	Gly	Gln	His	Leu	Thr	Ser	Ala	Ala	Ile	Leu	Gly	Leu	Asp	Gly
			20			25				30					
Thr	Val	Trp	Ala	Gln	Ser	Ala	Lys	Phe	Pro	Gln	Phe	Lys	Pro	Glu	Glu
			35			40			45						
Met	Lys	Gly	Ile	Ile	Lys	Glu	Phe	Asp	Glu	Ala	Gly	Thr	Leu	Ala	Pro
			50			55			60						
Thr	Gly	Met	Phe	Ile	Ala	Gly	Ala	Lys	Tyr	Met	Val	Leu	Gln	Gly	Glu
			65			70			75			80			
Pro	Gly	Ala	Val	Ile	Arg	Gly	Lys	Gly	Ala	Gly	Gly	Ile	Cys	Ile	
			85			90			95						
Lys	Lys	Thr	Gly	Gln	Ala	Met	Ile	Met	Gly	Ile	Tyr	Asp	Glu	Pro	Val
			100			105			110						
Ala	Pro	Gly	Gln	Cys	Asn	Met	Val	Val	Glu	Arg	Leu	Gly	Asp	Tyr	Leu
			115			120			125						
Leu	Glu	Gln	Gly	Met											
		130													

<210> 105
<211> 137
<212> PRT
<213> Hevea brasiliensis (Para rubber tree)

	400	105													
Ala	Glu	Asp	Glu	Asp	Asn	Gln	Gln	Gly	Gln	Gly	Glu	Gly	Leu	Lys	Tyr
			1		5			10			15				
Leu	Gly	Phe	Val	Gln	Asp	Ala	Ala	Thr	Tyr	Ala	Val	Thr	Thr	Phe	Ser
			20			25			30						
Asn	Val	Tyr	Leu	Phe	Ala	Lys	Asp	Lys	Ser	Gly	Pro	Leu	Gln	Pro	Gly
			35			40			45						
Val	Asp	Ile	Ile	Glu	Gly	Pro	Val	Lys	Asn	Val	Ala	Val	Pro	Leu	Tyr
			50			55			60						
Asn	Arg	Phe	Ser	Tyr	Ile	Pro	Asn	Gly	Ala	Leu	Lys	Phe	Val	Asp	Ser
			65			70			75			80			
Thr	Val	Val	Ala	Ser	Val	Thr	Ile	Ile	Asp	Arg	Ser	Leu	Pro	Pro	Ile
			85			90			95						
Val	Lys	Asp	Ala	Ser	Ile	Gln	Val	Val	Ser	Ala	Ile	Arg	Ala	Ala	Pro
			100			105			110						

Glu Ala Ala Arg Ser Leu Ala Ser Ser Leu Pro Gly Gln Thr Lys Ile
115 120 125
Leu Ala Lys Val Phe Tyr Gly Glu Asn
130 135

<210> 106
<211> 150
<212> PRT
<213> Hevea brasiliensis (Para rubber tree)

<400> 106
Ala Ser Val Glu Val Glu Ser Ala Ala Thr Ala Leu Pro Lys Asn Glu
1 5 10 15
Thr Pro Glu Val Thr Lys Ala Glu Glu Thr Lys Thr Glu Glu Pro Ala
20 25 30
Ala Pro Pro Ala Ser Glu Gln Glu Thr Ala Asp Ala Thr Pro Glu Lys
35 40 45
Glu Glu Pro Thr Ala Ala Pro Ala Glu Pro Glu Ala Pro Ala Pro Glu
50 55 60
Thr Glu Lys Ala Glu Glu Val Glu Lys Ile Glu Lys Thr Glu Glu Pro
65 70 75 80
Ala Pro Glu Ala Asp Gln Thr Thr Pro Glu Glu Lys Pro Ala Glu Pro
85 90 95
Glu Pro Val Ala Glu Glu Glu Pro Lys His Glu Thr Lys Glu Thr Glu
100 105 110
Thr Glu Ala Pro Ala Ala Pro Ala Glu Gly Glu Lys Pro Ala Glu Glu
115 120 125
Glu Lys Pro Ile Thr Glu Ala Ala Glu Thr Ala Thr Thr Glu Val Pro
130 135 140
Val Glu Lys Thr Glu Glu
145 150

<210> 107
<211> 265
<212> PRT
<213> Holcus lanatus (Velvet grass)

<400> 107
Met Ala Ser Ser Ser Arg Ser Val Leu Leu Leu Val Ala Ala Leu Phe
1 5 10 15
Ala Val Phe Leu Gly Ser Ala His Gly Ile Ala Lys Val Pro Pro Gly
20 25 30
Pro Asn Ile Thr Ala Thr Tyr Gly Asp Glu Trp Leu Asp Ala Lys Ser
35 40 45
Thr Trp Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly
50 55 60
Ala Cys Gly Tyr Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr
65 70 75 80
Gly Cys Gly Asn Thr Pro Ile Phe Lys Asp Gly Arg Gly Cys Gly Ser
85 90 95
Cys Phe Glu Ile Lys Cys Thr Lys Pro Glu Ser Cys Ser Gly Glu Pro
100 105 110
Val Thr Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr
115 120 125
His Phe Asp Leu Ser Gly His Ala Phe Gly Ser Met Ala Lys Lys Gly

130	135	140	
Glu Glu Gln Lys Leu Arg Ser Ala Gly Glu	Leu Glu Leu Lys Phe Arg		
145	150	155	160
Arg Val Lys Cys Lys Tyr Pro Asp Gly Thr	Lys Pro Thr Phe His Val		
165	170	175	
Glu Lys Gly Ser Asn Pro Asn Tyr Leu Ala	Leu Leu Val Lys Tyr Ile		
180	185	190	
Asp Gly Asp Gly Asp Val Val Ala Val Asp	Ile Lys Glu Lys Gly Lys		
195	200	205	
Asp Lys Trp Ile Glu Leu Lys Glu Ser Trp	Gly Ala Val Trp Arg Val		
210	215	220	
Asp Thr Pro Asp Lys Leu Thr Gly Pro Phe	Thr Val Arg Tyr Thr Thr		
225	230	235	240
Glu Gly Gly Thr Lys Gly Glu Ala Glu Asp	Val Ile Pro Glu Gly Trp		
245	250	255	
Lys Ala Asp Thr Ala Tyr Glu Ala Lys			
260	265		

<210> 108

<211> 146

<212> PRT

<213> Hordeum vulgare (Barley)

<400> 108

Pro Thr Ser Val Ala Val Asp Gln Gly Ser Met Val Ser Asn Ser Pro			
1	5	10	15
Gly Glu Trp Cys Trp Pro Gly Met Gly Tyr Pro Val Tyr Pro Phe Pro			
20	25	30	
Arg Cys Arg Ala Leu Val Lys Ser Gln Cys Ala Gly Gly Gln Val Val			
35	40	45	
Glu Ser Ile Gln Lys Asp Cys Cys Arg Gln Ile Ala Ala Ile Gly Asp			
50	55	60	
Glu Trp Cys Ile Cys Gly Ala Leu Gly Ser Met Arg Gly Ser Met Tyr			
65	70	75	80
Lys Glu Leu Gly Val Ala Leu Ala Asp Asp Lys Ala Thr Val Ala Glu			
85	90	95	
Val Phe Pro Gly Cys Arg Thr Glu Val Met Asp Arg Ala Val Ala Ser			
100	105	110	
Leu Pro Ala Val Cys Asn Gln Tyr Ile Pro Asn Thr Asn Gly Thr Asp			
115	120	125	
Gly Val Cys Tyr Trp Leu Ser Tyr Tyr Gln Pro Pro Arg Gln Met Ser			
130	135	140	
Ser Arg			
145			

<210> 109

<211> 367

<212> PRT

<213> Juniperus ashei (Ozark white cedar)

<400> 109

Met Ala Ser Pro Cys Leu Ile Ala Val Leu Val Phe Leu Cys Ala Ile			
1	5	10	15
Val Ser Cys Tyr Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp			
20	25	30	

Ser Asn Trp Asp Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
 35 40 45
 Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Asp Phe Tyr Thr Val
 50 55 60
 Thr Ser Thr Asp Asp Asn Pro Val Asn Pro Thr Pro Gly Thr Leu Arg
 65 70 75 80
 Tyr Gly Ala Thr Arg Glu Lys Ala Leu Trp Ile Ile Phe Ser Gln Asn
 85 90 95
 Met Asn Ile Lys Leu Lys Met Pro Leu Tyr Val Ala Gly His Lys Thr
 100 105 110
 Ile Asp Gly Arg Gly Ala Asp Val His Leu Gly Asn Gly Gly Pro Cys
 115 120 125
 Leu Phe Met Arg Lys Val Ser His Val Ile Leu His Ser Leu His Ile
 130 135 140
 His Gly Cys Asn Thr Ser Val Leu Gly Asp Val Leu Val Ser Glu Ser
 145 150 155 160
 Ile Gly Val Glu Pro Val His Ala Gln Asp Gly Asp Ala Ile Thr Met
 165 170 175
 Arg Asn Val Thr Asn Ala Trp Ile Asp His Asn Ser Leu Ser Asp Cys
 180 185 190
 Ser Asp Gly Leu Ile Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile
 195 200 205
 Ser Asn Asn His Phe Phe Asn His His Lys Val Met Leu Leu Gly His
 210 215 220
 Asp Asp Thr Tyr Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe
 225 230 235 240
 Asn Gln Phe Gly Pro Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr
 245 250 255
 Gly Leu Val His Val Ala Asn Asn Asn Tyr Asp Pro Trp Asn Ile Tyr
 260 265 270
 Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser
 275 280 285
 Phe Thr Ala Pro Ser Glu Ser Tyr Lys Lys Glu Val Thr Lys Arg Ile
 290 295 300
 Gly Cys Glu Ser Pro Ser Ala Cys Ala Asn Trp Val Trp Arg Ser Thr
 305 310 315 320
 Arg Asp Ala Phe Ile Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Thr
 325 330 335
 Glu Glu Thr Asn Ile Tyr Asn Ser Asn Glu Ala Phe Lys Val Glu Asn
 340 345 350
 Gly Asn Ala Ala Pro Gln Leu Thr Lys Asn Ala Gly Val Val Thr
 355 360 365

<210> 110
 <211> 225
 <212> PRT
 <213> Juniperus ashei (Ozark white cedar)

<400> 110
 Met Ala Arg Val Ser Glu Leu Ala Phe Leu Leu Ala Ala Thr Leu Ala
 1 5 10 15
 Ile Ser Leu His Met Gln Glu Ala Gly Val Val Lys Phe Asp Ile Lys
 20 25 30
 Asn Gln Cys Gly Tyr Thr Val Trp Ala Ala Gly Leu Pro Gly Gly Gly
 35 40 45
 Lys Arg Leu Asp Gln Gly Gln Thr Trp Thr Val Asn Leu Ala Ala Gly

50	55	60
Thr Ala Ser Ala Arg Phe Trp Gly Arg Thr Gly Cys Thr Phe Asp Ala		
65	70	75
Ser Gly Lys Gly Ser Cys Gln Thr Gly Asp Cys Gly Gly Gln Leu Ser		80
85	90	95
Cys Thr Val Ser Gly Ala Val Pro Ala Thr Leu Ala Glu Tyr Thr Gln		
100	105	110
Ser Asp Gln Asp Tyr Tyr Asp Val Ser Leu Val Asp Gly Phe Asn Ile		
115	120	125
Pro Leu Ala Ile Asn Pro Thr Asn Ala Gln Cys Thr Ala Pro Ala Cys		
130	135	140
Lys Ala Asp Ile Asn Ala Val Cys Pro Ser Glu Leu Lys Val Asp Gly		
145	150	155
Gly Cys Asn Ser Ala Cys Asn Val Phe Lys Thr Asp Gln Tyr Cys Cys		160
165	170	175
Arg Asn Ala Tyr Val Asp Asn Cys Pro Ala Thr Asn Tyr Ser Lys Ile		
180	185	190
Phe Lys Asn Gln Cys Pro Gln Ala Tyr Ser Tyr Ala Lys Asp Asp Thr		
195	200	205
Ala Thr Phe Ala Cys Ala Ser Gly Thr Asp Tyr Ser Ile Val Phe Cys		
210	215	220

Pro
225

<210> 111
<211> 141
<212> PRT
<213> Lepidoglyphus destructor (Storage mite)

400	111		
Met Met Lys Phe Ile Ala Leu Phe Ala Leu Val Ala Val Ala Ser Ala			
1	5	10	15
Gly Lys Met Thr Phe Lys Asp Cys Gly His Gly Glu Val Thr Glu Leu			
20	25	30	
Asp Ile Thr Gly Cys Ser Gly Asp Thr Cys Val Ile His Arg Gly Glu			
35	40	45	
Lys Met Thr Leu Glu Ala Lys Phe Ala Ala Asn Gln Asp Thr Ala Lys			
50	55	60	
Val Thr Ile Lys Val Leu Ala Lys Val Ala Gly Thr Thr Ile Gln Val			
65	70	75	80
Pro Gly Leu Glu Thr Asp Gly Cys Lys Phe Ile Lys Cys Pro Val Lys			
85	90	95	
Lys Gly Glu Ala Leu Asp Phe Ile Tyr Ser Gly Thr Ile Pro Ala Ile			
100	105	110	
Thr Pro Lys Val Lys Ala Asp Val Thr Ala Glu Leu Ile Gly Asp His			
115	120	125	
Gly Val Met Ala Cys Gly Thr Val His Gly Gln Val Glu			
130	135	140	

<210> 112
<211> 263
<212> PRT
<213> Lolium perenne (Perennial ryegrass)

<400> 112

Met Ala Ser Ser Ser Val Leu Leu Val Val Ala Leu Phe Ala Val
 1 5 10 15
 Phe Leu Gly Ser Ala His Gly Ile Ala Lys Val Pro Pro Gly Pro Asn
 20 25 30
 Ile Thr Ala Glu Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp
 35 40 45
 Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys
 50 55 60
 Gly Tyr Lys Asn Val Asp Lys Ala Pro Phe Asn Gly Met Thr Gly Cys
 65 70 75 80
 Gly Asn Thr Pro Ile Phe Lys Asp Gly Arg Gly Cys Gly Ser Cys Phe
 85 90 95
 Glu Ile Lys Cys Thr Lys Pro Glu Ser Cys Ser Gly Glu Ala Val Thr
 100 105 110
 Val Thr Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr His Phe
 115 120 125
 Asp Leu Ser Gly His Ala Phe Gly Ser Met Ala Lys Lys Gly Glu Glu
 130 135 140
 Gln Asn Val Arg Ser Ala Gly Glu Leu Glu Leu Gln Phe Arg Arg Val
 145 150 155 160
 Lys Cys Lys Tyr Pro Asp Asp Thr Lys Pro Thr Phe His Val Glu Lys
 165 170 175
 Ala Ser Asn Pro Asn Tyr Leu Ala Ile Leu Val Lys Tyr Val Asp Gly
 180 185 190
 Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys
 195 200 205
 Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Val Trp Arg Ile Asp Thr
 210 215 220
 Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly
 225 230 235 240
 Gly Thr Lys Ser Glu Phe Glu Asp Val Ile Pro Glu Gly Trp Lys Ala
 245 250 255
 Asp Thr Ser Tyr Ser Ala Lys
 260

<210> 113
 <211> 97
 <212> PRT
 <213> Lolium perenne (Perennial ryegrass)

<400> 113
 Ala Ala Pro Val Glu Phe Thr Val Glu Lys Gly Ser Asp Glu Lys Asn
 1 5 10 15
 Leu Ala Leu Ser Ile Lys Tyr Asn Lys Glu Gly Asp Ser Met Ala Glu
 20 25 30
 Val Glu Leu Lys Glu His Gly Ser Asn Glu Trp Leu Ala Leu Lys Lys
 35 40 45
 Asn Gly Asp Gly Val Trp Glu Ile Lys Ser Asp Lys Pro Leu Lys Gly
 50 55 60
 Pro Phe Asn Phe Arg Phe Val Ser Glu Lys Gly Met Arg Asn Val Phe
 65 70 75 80
 Asp Asp Val Val Pro Ala Asp Phe Lys Val Gly Thr Thr Tyr Lys Pro
 85 90 95
 Glu

<210> 114
<211> 97
<212> PRT
<213> Lolium perenne (Perennial ryegrass)

<400> 114

Thr	Lys	Val	Asp	Leu	Thr	Val	Glu	Lys	Gly	Ser	Asp	Ala	Lys	Thr	Leu
1				5				10					15		
Val	Leu	Asn	Ile	Lys	Tyr	Thr	Arg	Pro	Gly	Asp	Thr	Leu	Ala	Glu	Val
				20				25					30		
Glu	Leu	Arg	Gln	His	Gly	Ser	Glu	Glu	Trp	Glu	Pro	Met	Thr	Lys	Lys
				35				40				45			
Gly	Asn	Leu	Trp	Glu	Val	Lys	Ser	Ala	Lys	Pro	Leu	Thr	Gly	Pro	Met
				50				55			60				
Asn	Phe	Arg	Phe	Leu	Ser	Lys	Gly	Gly	Met	Lys	Asn	Val	Phe	Asp	Glu
65				70				75				80			
Val	Ile	Pro	Thr	Ala	Phe	Thr	Val	Gly	Lys	Thr	Tyr	Thr	Pro	Glu	Tyr
				85				90				95			

Asn

<210> 115
<211> 308
<212> PRT
<213> Lolium perenne (Perennial ryegrass)

<400> 115

Met	Ala	Val	Gln	Lys	Tyr	Thr	Val	Ala	Leu	Phe	Leu	Arg	Arg	Gly	Pro
1					5				10			15			
Arg	Gly	Gly	Pro	Gly	Arg	Ser	Tyr	Ala	Ala	Asp	Ala	Gly	Tyr	Thr	Pro
					20				25			30			
Ala	Ala	Ala	Ala	Thr	Pro	Ala	Thr	Pro	Ala	Ala	Thr	Pro	Ala	Gly	Gly
				35				40			45				
Trp	Arg	Glu	Gly	Asp	Asp	Arg	Arg	Ala	Glu	Ala	Ala	Gly	Gly	Arg	Gln
				50				55			60				
Arg	Leu	Ala	Ser	Arg	Gln	Pro	Trp	Pro	Pro	Leu	Pro	Thr	Pro	Leu	Arg
				65				70			75			80	
Arg	Thr	Ser	Ser	Arg	Ser	Ser	Arg	Pro	Pro	Ser	Pro	Ser	Pro	Pro	Arg
					85				90			95			
Ala	Ser	Ser	Pro	Thr	Ser	Ala	Ala	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Lys
				100				105				110			
Leu	Asp	Thr	Ala	Tyr	Asp	Val	Ala	Tyr	Lys	Ala	Ala	Glu	Ala	His	Pro
				115				120				125			
Arg	Gly	Gln	Val	Arg	Arg	Leu	Arg	His	Cys	Pro	His	Arg	Ser	Leu	Arg
				130				135			140				
Val	Ile	Ala	Gly	Ala	Leu	Glu	Val	His	Ala	Val	Lys	Pro	Ala	Thr	Glu
				145				150			155			160	
Glu	Val	Leu	Ala	Ala	Lys	Ile	Pro	Thr	Gly	Glu	Leu	Gln	Ile	Val	Asp
					165				170			175			
Lys	Ile	Asp	Ala	Ala	Phe	Lys	Ile	Ala	Ala	Thr	Ala	Ala	Asn	Ala	Ala
					180				185			190			
Pro	Thr	Asn	Asp	Lys	Phe	Thr	Val	Phe	Glu	Ser	Ala	Phe	Asn	Lys	Ala
				195				200			205				
Leu	Asn	Glu	Cys	Thr	Gly	Gly	Ala	Met	Arg	Pro	Thr	Ser	Ser	Ser	Pro
				210				215			220				

Pro Ser Arg Pro Arg Ser Ser Arg Pro Thr Pro Pro Pro Ser Pro Ala
 225 230 235 240
 Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala
 245 250 255
 Ile Thr Ala Met Thr Gln Ala Gln Lys Ala Gly Lys Pro Ala Ala Ala
 260 265 270
 Ala Ala Thr Ala Ala Ala Thr Val Ala Thr Ala Ala Ala Thr Ala Ala
 275 280 285
 Ala Val Leu Pro Pro Leu Leu Val Val Gln Ser Leu Ile Ser Leu
 290 295 300
 Leu Ile Tyr Tyr
 305

<210> 116
 <211> 339
 <212> PRT
 <213> Lolium perenne (Perennial ryegrass)

<400> 116
 Met Ala Val Gln Lys His Thr Val Ala Leu Phe Leu Ala Val Ala Leu
 1 5 10 15
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro
 20 25 30
 Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Thr Ala Ala Thr Pro Ala
 35 40 45
 Thr Pro Ala Thr Pro Ala Thr Pro Ala Ala Val Pro Ser Gly Lys Ala
 50 55 60
 Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys
 65 70 75 80
 Ala Ala Val Ala Ala Ala Val Val Pro Pro Ala Asp Lys Tyr Lys
 85 90 95
 Thr Phe Val Glu Thr Phe Gly Thr Ala Thr Asn Lys Ala Phe Val Glu
 100 105 110
 Gly Leu Ala Ser Gly Tyr Ala Asp Gln Ser Lys Asn Gln Leu Thr Ser
 115 120 125
 Lys Leu Asp Ala Ala Leu Lys Leu Ala Tyr Glu Ala Ala Gln Gly Ala
 130 135 140
 Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Thr Glu Ala
 145 150 155 160
 Leu Arg Val Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala
 165 170 175
 Ala Glu Glu Val Lys Val Gly Ala Ile Pro Ala Ala Glu Val Gln Leu
 180 185 190
 Ile Asp Lys Val Asp Ala Ala Tyr Arg Thr Ala Ala Thr Ala Ala Asn
 195 200 205
 Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Asn Thr Phe Asn
 210 215 220
 Asn Ala Ile Lys Val Ser Leu Gly Ala Ala Tyr Asp Ser Tyr Lys Phe
 225 230 235 240
 Ile Pro Thr Leu Val Ala Ala Val Lys Gln Ala Tyr Ala Ala Lys Gln
 245 250 255
 Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Ser Glu Thr Ala Leu Lys
 260 265 270
 Lys Ala Val Thr Ala Met Ser Glu Ala Glu Lys Glu Ala Thr Pro Ala
 275 280 285
 Ala Ala Ala Thr Ala Thr Pro Thr Pro Ala Ala Ala Thr Ala Thr Ala

290	295	300
Thr Pro Ala Ala Ala Tyr Ala Thr Ala Thr Pro Ala Ala Ala Thr Ala		
305	310	315
Thr Ala Thr Pro Ala Ala Ala Thr Ala Thr Pro Ala Ala Ala Gly Gly		
325	330	335
Tyr Lys Val		

<210> 117
<211> 158
<212> PRT
<213> Malus domestica (Apple) (Malus sylvestris)

<400> 117			
Gly Val Tyr Thr Phe Glu Asn Glu Phe Thr Ser Glu Ile Pro Pro Ser			
1	5	10	15
Arg Leu Phe Lys Ala Phe Val Leu Asp Ala Asp Asn Leu Ile Pro Lys			
20	25	30	
Ile Ala Pro Gln Ala Ile Lys Gln Ala Glu Ile Leu Glu Gly Asn Gly			
35	40	45	
Gly Pro Gly Thr Ile Lys Ile Thr Phe Gly Glu Gly Ser Gln Tyr			
50	55	60	
Gly Tyr Val Lys His Arg Ile Asp Ser Ile Asp Glu Ala Ser Tyr Ser			
65	70	75	80
Tyr Ser Tyr Thr Leu Ile Glu Gly Asp Ala Leu Thr Asp Thr Ile Glu			
85	90	95	
Lys Ile Ser Tyr Glu Thr Lys Leu Val Ala Cys Gly Ser Gly Ser Thr			
100	105	110	
Ile Lys Ser Ile Ser His Tyr His Thr Lys Gly Asn Ile Glu Ile Lys			
115	120	125	
Glu Glu His Val Lys Val Gly Lys Glu Lys Ala His Gly Leu Phe Lys			
130	135	140	
Leu Ile Glu Ser Tyr Leu Lys Asp His Pro Asp Ala Tyr Asn			
145	150	155	

<210> 118
<211> 133
<212> PRT
<213> Mercurialis annua (Annual mercury)

<400> 118			
Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp			
1	5	10	15
Gly Gln Gly Gln His Leu Ala Ala Ala Ser Ile Val Gly His Asp Gly			
20	25	30	
Ser Ile Trp Ala Gln Ser Ala Ser Phe Pro Gln Leu Lys Pro Glu Glu			
35	40	45	
Ile Thr Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro			
50	55	60	
Thr Gly Leu Tyr Ile Ala Gly Thr Lys Tyr Met Val Ile Gln Gly Glu			
65	70	75	80
Ser Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile			
85	90	95	
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val			
100	105	110	

Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
115 120 125
Ile Glu Gln Gly Met
130

<210> 119
<211> 274
<212> PRT
<213> Metapenaeus ensis (Greasyback shrimp) (Sand shrim

<400> 119
Met Lys Leu Glu Lys Asp Asn Ala Met Asp Arg Ala Asp Thr Leu Glu
1 5 10 15
Gln Gln Asn Lys Glu Ala Asn Asn Arg Ala Glu Lys Ser Glu Glu Glu
20 25 30
Val His Asn Leu Gln Lys Arg Met Gln Gln Leu Glu Asn Asp Leu Asp
35 40 45
Gln Val Gln Glu Ser Leu Leu Lys Ala Asn Asn Gln Leu Val Glu Lys
50 55 60
Asp Lys Ala Leu Ser Asn Ala Glu Gly Glu Val Ala Ala Leu Asn Arg
65 70 75 80
Arg Ile Gln Leu Leu Glu Asp Leu Glu Arg Ser Glu Glu Arg Leu
85 90 95
Asn Thr Ala Thr Thr Lys Leu Ala Glu Ala Ser Gln Ala Ala Asp Glu
100 105 110
Ser Glu Arg Met Arg Lys Val Leu Glu Asn Arg Ser Leu Ser Asp Glu
115 120 125
Glu Arg Met Asp Ala Leu Glu Asn Gln Leu Lys Glu Ala Arg Phe Leu
130 135 140
Ala Glu Glu Ala Asp Arg Lys Tyr Asp Glu Val Ala Arg Lys Leu Ala
145 150 155 160
Met Val Glu Ala Asp Leu Glu Arg Ala Glu Glu Arg Ala Glu Thr Gly
165 170 175
Glu Ser Lys Ile Val Glu Leu Glu Glu Leu Arg Val Val Gly Asn
180 185 190
Asn Leu Lys Ser Leu Glu Val Ser Glu Glu Lys Ala Asn Gln Arg Glu
195 200 205
Glu Ala Tyr Lys Glu Gln Ile Lys Thr Leu Thr Asn Lys Leu Lys Ala
210 215 220
Ala Glu Ala Arg Ala Glu Phe Ala Glu Arg Ser Val Gln Lys Leu Gln
225 230 235 240
Lys Glu Val Asp Arg Leu Glu Asp Glu Leu Val Asn Glu Lys Glu Lys
245 250 255
Tyr Lys Ser Ile Thr Asp Glu Leu Asp Gln Thr Phe Ser Glu Leu Ser
260 265 270
Gly Tyr

<210> 120
<211> 180
<212> PRT
<213> Mus musculus (Mouse)

<400> 120
Met Lys Met Leu Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys Val

1	5	10	15
His	Ala	Glu	Glu
Glu	Ala	Ser	Ser
Thr	Gly	Arg	Asn
Phe	Asn	Val	Glu
Lys			
20	25	30	
Ile	Asn	Gly	Glu
Trp	His	Thr	Ile
Ile	Leu	Ala	Ser
Asp	Lys	Arg	Glu
35	40	45	
Lys	Ile	Glu	Asp
Asn	Gly	Asn	Phe
Phe	Arg	Leu	Phe
Leu	Glu	Gln	Ile
50	55	60	His
Val	Leu	Asn	Ser
Leu	Val	Leu	Lys
Phe	His	Thr	Val
65	70	75	Arg
Glu	Cys	Ser	Glu
Glu	Leu	Ser	Met
Met	Val	Ala	Asp
Lys	Thr	Glu	Lys
85	90	95	Ala
Glu	Tyr	Ser	Val
Thr	Tyr	Asp	Gly
Phe	Asn	Thr	Phe
100	105	110	Thr
Thr	Asp	Tyr	Asp
Asn	Phe	Leu	Met
Met	Ala	His	Leu
Ile	Asn	Glu	Lys
115	120	125	Asp
Gly	Glu	Thr	Phe
Gln	Leu	Met	Gly
Leu	Tyr	Gly	Arg
130	135	140	Glu
Pro	Asp	Ile	Glu
Lys	Glu	Arg	Phe
145	150	155	Ala
Gln	Leu	Cys	Glu
Met	Ser	Glu	Gly
Ser	Asp	Ile	Lys
Ile	Leu	Asn	Arg
Ile	Leu	Asp	Leu
165	170	175	Ser
Ile	Leu	Arg	Asn
Gln	Ala	Arg	Asn
180			Arg

<210> 121
<211> 112
<212> PRT
<213> Myrmecia pilosula (Bulldog ant) (Australian jumpe

1	5	10	15
Met	Lys	Leu	Ser
Cys	Leu	Leu	Leu
Thr	Leu	Thr	Ile
Ile	Ile	Phe	Val
20	25	30	Leu
Glu	Ser	Glu	Ala
Ala	Val	Gly	Phe
Phe	Ala	Asp	Ala
35	40	45	Phe
Val	Gly	Glu	Ala
Glu	Ala	Asp	Pro
Pro	Asn	Ala	Gly
50	55	60	Leu
Leu	Ala	Arg	Ile
Gly	Arg	Val	Ile
65	70	75	Pro
Gly	Pro	Lys	Val
Pro	Lys	Val	Ala
Ala	Lys	Val	Leu
Leu	Pro	Lys	Val
85	90	95	Met
Pro	Met	Ala	Val
Met	Ala	Lys	Glu
100	105	110	Glu
Glu	Gln	Gln	Gln
100	105	110	Pro
Gln	Gln	Gln	Gln

<210> 122
<211> 75
<212> PRT
<213> Myrmecia pilosula (Bulldog ant) (Australian jumpe

1	5	10	15
Met	Lys	Leu	Ser
Cys	Leu	Leu	Leu
Thr	Leu	Ala	Ile
Ile	Ile	Phe	Val
20	25	30	Leu
Thr	Ile	Val	His
Ile	Leu	Asn	Val
Asn	Glu	Ala	Lys
Ala	Lys	Ala	Leu
Leu	Asp	Asp	Pro

Glu Ser Asp Ala Val Gly Phe Ala Asp Ala Val Gly Glu Ala Asp Pro
35 40 45
Ile Asp Trp Lys Lys Val Asp Trp Lys Lys Val Ser Lys Lys Thr Cys
50 55 60
Lys Val Met Leu Lys Ala Cys Lys Phe Leu Gly
65 70 75

<210> 123
<211> 145
<212> PRT
<213> Olea europaea (Common olive)

<400> 123
Glu Asp Ile Pro Gln Pro Pro Val Ser Gln Phe His Ile Gln Gly Gln
1 5 10 15
Val Tyr Cys Asp Thr Cys Arg Ala Gly Phe Ile Thr Glu Leu Ser Glu
20 25 30
Phe Ile Pro Gly Ala Ser Leu Arg Leu Gln Cys Lys Asp Lys Glu Asn
35 40 45
Gly Asp Val Thr Phe Thr Glu Val Gly Tyr Thr Arg Ala Glu Gly Leu
50 55 60
Tyr Ser Met Leu Val Glu Arg Asp His Lys Asn Glu Phe Cys Glu Ile
65 70 75 80
Thr Leu Ile Ser Ser Gly Arg Lys Asp Cys Asn Glu Ile Pro Thr Glu
85 90 95
Gly Trp Ala Lys Pro Ser Leu Lys Phe Lys Leu Asn Thr Val Asn Gly
100 105 110
Thr Thr Arg Thr Val Asn Pro Leu Gly Phe Phe Lys Lys Glu Ala Leu
115 120 125
Pro Lys Cys Ala Gln Val Tyr Asn Lys Leu Gly Met Tyr Pro Pro Asn
130 135 140
Met
145

<210> 124
<211> 24
<212> PRT
<213> Olea europaea (Common olive)

<400> 124
Ala Phe Ala Asn Thr Gly Val Glu Ile Val Ser Ile Asp Thr Tyr Leu
1 5 10 15
Phe Ser Leu Tyr Asp Glu Asp Lys
20

<210> 125
<211> 29
<212> PRT
<213> Olea europaea (Common olive)

<400> 125
Val Lys Ala Val Thr Val Leu Asn Ser Ser Glu Gly Pro His Gly Ile
1 5 10 15
Val Tyr Phe Ala Gln Glu Gly Asp Gly Pro Thr Thr Val

<210> 126
<211> 19
<212> PRT
<213> Olea europaea (Common olive)

<220>
<221> UNSURE
<222> 14, 16
<223> Xaa = any amino acid

<400> 126
Ala Pro Ser Gln Gly Thr Val Thr Ala Lys Leu Thr Ser Xaa Val Xaa
1 5 10 15
Tyr Lys Asp

<210> 127
<211> 263
<212> PRT
<213> Oryza sativa (Rice)

<400> 127
Met Ala Ser Ser Ser Leu Leu Leu Ala Cys Val Val Val Ala Ala Met
1 5 10 15
Val Ser Pro Ser Pro Ala Gly His Pro Lys Val Pro Pro Gly Pro Asn
20 25 30
Ile Thr Thr Ser Tyr Gly Asp Lys Trp Leu Glu Ala Arg Pro Pro Gly
35 40 45
Met Val Arg Pro Arg Val Leu Ala Pro Lys Asp Asn Gly Gly Ala Cys
50 55 60
Gly Tyr Lys Asp Val Asp Lys Ala Pro Phe Leu Gly Met Asn Ser Cys
65 70 75 80
Gly Asn Asp Pro Ile Phe Lys Asp Gly Lys Gly Cys Gly Ser Cys Phe
85 90 95
Glu Ile Lys Cys Ser Lys Pro Glu Ala Cys Ser Asp Lys Pro Ala Leu
100 105 110
Ile His Val Thr Asp Met Asn Asp Glu Pro Ile Ala Ala Tyr His Phe
115 120 125
Asp Leu Ser Gly Leu Ala Met Ala Lys Asp Gly Lys Asp Glu Glu Leu
130 135 140
Arg Lys Ala Gly Ile Ile Asp Thr Gln Phe Arg Arg Val Lys Cys Lys
145 150 155 160
Tyr Pro Ala Asp Thr Lys Ile Thr Phe His Ile Glu Lys Ala Ser Asn
165 170 175
Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Val Ala Gly Asp Gly Asp
180 185 190
Val Val Glu Val Glu Ile Lys Glu Lys Gly Ser Glu Glu Trp Lys Ala
195 200 205
Leu Lys Glu Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr Pro Lys Pro
210 215 220
Leu Lys Gly Pro Phe Ser Val Arg Val Thr Thr Glu Gly Ala Arg Arg
225 230 235 240
Ser Ser Ala Glu Asp Ala Ile Pro Asp Pro Gly Arg Arg Gln Arg Val

245 250 255
Gln Val Asn Val Gln Ala Lys
260

<210> 128
<211> 139
<212> PRT
<213> Parietaria judaica

<400> 128
Gln Glu Thr Cys Gly Thr Met Val Arg Ala Leu Met Pro Cys Leu Pro
1 5 10 15
Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly Cys Cys Ser Gly
20 25 30
Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro Gln Arg Val His
35 40 45
Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr Ser Asp Ile Asp
50 55 60
Gly Lys Leu Val Ser Glu Val Pro Lys His Cys Gly Ile Val Asp Ser
65 70 75 80
Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys Thr Val Gly Val
85 90 95
Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu Arg His Gly Pro Val
100 105 110
Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg Leu Glu Arg Pro Gln
115 120 125
Ile Arg Val Pro Pro Ala Pro Glu Lys Ala
130 135

<210> 129
<211> 176
<212> PRT
<213> Parietaria judaica

<400> 129
Met Arg Thr Val Ser Ala Pro Ser Ala Val Ala Leu Val Val Ile Val
1 5 10 15
Ala Ala Gly Leu Ala Trp Thr Ser Leu Ala Ser Val Ala Pro Pro Ala
20 25 30
Pro Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Arg Ala Leu
35 40 45
Met Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys
50 55 60
Gly Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly
65 70 75 80
Leu Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr
85 90 95
Tyr Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys
100 105 110
Gly Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys
115 120 125
Lys Thr Leu Gly Val Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu
130 135 140
Arg His Gly Pro Val Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg
145 150 155 160

Leu Glu Arg Pro Gln Ile Arg Val Pro Pro Pro Ala Pro Glu Lys Ala
165 170 175

<210> 130
<211> 138
<212> PRT
<213> Parietaria judaica

<400> 130
Met Arg Thr Val Ser Ala Arg Ser Ser Val Ala Leu Val Val Ile Val
1 5 10 15
Ala Ala Val Leu Val Trp Thr Ser Ser Ala Ser Val Ala Pro Ala Pro
20 25 30
Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Gly Ala Leu Met
35 40 45
Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly
50 55 60
Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro
65 70 75 80
Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr
85 90 95
Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys Gly
100 105 110
Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys
115 120 125
Thr Leu Gly Val Leu His Tyr Lys Gly Asn
130 135

<210> 131
<211> 133
<212> PRT
<213> Parietaria judaica

<400> 131
Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
1 5 10 15
Ala Trp Thr Ser Ser Ala Glu Pro Ala Pro Ala Pro Ala Pro Gly Glu
20 25 30
Glu Ala Cys Gly Lys Val Val Gln Asp Ile Met Pro Cys Leu His Phe
35 40 45
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Glu Cys Cys Ser Gly Thr
50 55 60
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala
65 70 75 80
Cys Lys Cys Ile Val Arg Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
85 90 95
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Asp Ile Lys Thr Thr Leu
100 105 110
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Gln Ser Thr Ile
115 120 125
Phe Arg Gly Tyr Tyr
130

<210> 132

<211> 133
<212> PRT
<213> Parietaria judaica

<400> 132

Met	Arg	Thr	Val	Ser	Met	Ala	Ala	Leu	Val	Val	Ile	Ala	Ala	Leu	
1					5				10			15			
Ala	Trp	Thr	Ser	Ser	Ala	Glu	Leu	Ala	Ser	Ala	Pro	Ala	Pro	Gly	Glu
					20				25			30			
Gly	Pro	Cys	Gly	Lys	Val	Val	His	His	Ile	Met	Pro	Cys	Leu	Lys	Phe
					35				40			45			
Val	Lys	Gly	Glu	Glu	Lys	Glu	Pro	Ser	Lys	Ser	Cys	Cys	Ser	Gly	Thr
	50				55				60						
Lys	Lys	Leu	Ser	Glu	Glu	Val	Lys	Thr	Thr	Glu	Gln	Lys	Arg	Glu	Ala
	65				70				75			80			
Cys	Lys	Cys	Ile	Val	Ala	Ala	Thr	Lys	Gly	Ile	Ser	Gly	Ile	Lys	Asn
					85				90			95			
Glu	Leu	Val	Ala	Glu	Val	Pro	Lys	Lys	Cys	Gly	Ile	Thr	Thr	Thr	Leu
					100				105			110			
Pro	Pro	Ile	Thr	Ala	Asp	Phe	Asp	Cys	Ser	Lys	Ile	Glu	Ser	Thr	Ile
					115				120			125			
Phe	Arg	Gly	Tyr	Tyr											
					130										

<210> 133
<211> 269
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 133

Met	Met	Lys	Met	Val	Cys	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Leu	Val	Val
1					5				10			15			
Ala	Ala	Leu	Leu	Ala	Val	Phe	Val	Gly	Ser	Ala	Gln	Gly	Ile	Ala	Lys
					20				25			30			
Val	Pro	Pro	Gly	Pro	Asn	Ile	Thr	Ala	Glu	Tyr	Gly	Asp	Lys	Trp	Leu
					35				40			45			
Asp	Ala	Lys	Ser	Thr	Trp	Tyr	Gly	Lys	Pro	Thr	Gly	Ala	Gly	Pro	Lys
					50				55			60			
Asp	Asn	Gly	Gly	Ala	Cys	Gly	Tyr	Lys	Asp	Val	Asp	Lys	Ala	Pro	Phe
					65				70			75			80
Asn	Gly	Met	Thr	Gly	Cys	Gly	Asn	Thr	Pro	Ile	Phe	Lys	Asp	Gly	Arg
					85				90			95			
Gly	Cys	Gly	Ser	Cys	Phe	Glu	Leu	Lys	Cys	Ser	Lys	Pro	Glu	Ser	Cys
					100				105			110			
Ser	Gly	Glu	Pro	Ile	Thr	Val	His	Ile	Thr	Asp	Asp	Asn	Glu	Glu	Pro
					115				120			125			
Ile	Ala	Pro	Tyr	His	Phe	Asp	Leu	Ser	Gly	His	Ala	Phe	Gly	Ser	Met
					130				135			140			
Ala	Lys	Lys	Gly	Glu	Glu	Glu	Asn	Val	Arg	Gly	Ala	Gly	Glu	Leu	Glu
					145				150			155			160
Leu	Gln	Phe	Arg	Arg	Val	Lys	Cys	Lys	Tyr	Pro	Asp	Gly	Thr	Lys	Pro
					165				170			175			
Thr	Phe	His	Val	Glu	Lys	Gly	Ser	Asn	Pro	Asn	Tyr	Leu	Ala	Leu	Leu
					180				185			190			
Val	Lys	Tyr	Val	Asp	Gly	Asp	Gly	Asp	Val	Val	Ala	Val	Asp	Ile	Lys
					195				200			205			

Glu Lys Gly Lys Asp Lys Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala
 210 215 220
 Ile Trp Arg Ile Asp Thr Pro Asp Lys Leu Thr Gly Pro Phe Thr Val
 225 230 235 240
 Arg Tyr Thr Thr Glu Gly Thr Lys Ala Glu Phe Glu Asp Val Ile
 245 250 255
 Pro Glu Gly Trp Lys Ala Asp Thr His Asp Ala Ser Lys
 260 265

<210> 134
 <211> 320
 <212> PRT
 <213> Phalaris aquatica (Canary grass)

<400> 134
 Met Ala Val Gln Lys Tyr Thr Met Ala Leu Phe Leu Ala Val Ala Leu
 1 5 10 15
 Val Ala Gly Pro Ala Ala Pro Thr Pro Pro Thr Pro Arg Thr Pro Pro
 20 25 30
 Leu Leu Pro Pro Arg Ala Arg Asp Lys Ala Thr Leu Thr Ser Arg
 35 40 45
 Ser Val Glu Asp Ile Asn Ala Ala Ser Arg Arg Pro Trp Trp Ala Ser
 50 55 60
 Val Pro Pro Ala Asp Lys Phe Lys Thr Phe Ala Asp His Val Leu Cys
 65 70 75 80
 Val Pro Asn Ala Asp Val Thr Ser Ala Ala Thr Lys Ala Pro Gln Leu
 85 90 95
 Lys Ala Lys Leu Asp Ala Ala Tyr Arg Val Ala Tyr Glu Ala Ala Glu
 100 105 110
 Gly Ser Thr Pro Glu Ala Lys Tyr Asp Ala Phe Ile Ala Ala Leu Thr
 115 120 125
 Glu Ala Leu Arg Val Ile Ala Gly Ala Phe Glu Val His Ala Val Lys
 130 135 140
 Pro Ala Thr Glu Glu Val Val Ala Asp Pro Val Gly Glu Leu Gln Ile
 145 150 155 160
 Val Asp Lys Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn
 165 170 175
 Ser Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Gly Ala Phe Asn
 180 185 190
 Lys Ala Ile Lys Glu Ser Thr Ala Gly Ala Tyr Glu Thr Tyr Lys Phe
 195 200 205
 Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Gly Ala Thr Val
 210 215 220
 Ala Arg Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Gly Leu Thr
 225 230 235 240
 Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Pro
 245 250 255
 Leu Ser Pro Gln Pro Pro Gln Val Leu Pro Leu Ala Ala Gly Gly Ala
 260 265 270
 Ala Thr Val Ala Ala Ala Ser Asp Val Arg Val Cys Arg Ser His Gly
 275 280 285
 Thr Leu Gln Asp Ala Cys Leu Leu Arg Cys Arg Gly Gly Cys Gln Pro
 290 295 300
 Val Val Trp Arg Gly Gly Ser His Arg Ala Arg Gly Gly Tyr Lys Val
 305 310 315 320

<210> 135
<211> 305
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 135

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu		
1	5	10
Val Ala Gly Pro Ala Ala Leu Tyr Ala Gly Asp Gly Tyr Ala Pro Ala		
20	25	30
Thr Pro Ala Ala Ser Ala Thr Leu Ala Thr Pro Ala Thr Pro Ala Ala		
35	40	45
Ser Pro Gln His Ala Gly Thr Thr Glu Tyr His Ile Val Arg Lys Ala		
50	55	60
Gly Leu Asn Glu Glu Lys Asn Ala Ala Arg Gln Thr Asp Asp Glu Gln		
65	70	75
Lys Arg Ser Asp Glu Ile Asn Cys Pro Asp Phe Asn Lys Ser Val His		
85	90	95
Cys Arg Ala Asp Arg Leu Pro Val Cys Ser Ser Thr Ser Ala His Ser		
100	105	110
Ser Lys Gln Asp Val Ala Trp Met Leu Gly Tyr Gly Ser Ile Gln Gly		
115	120	125
Phe Ser Met Asp Asp Ala Ser Val Gly Ser Val Ser Ser Glu Phe His		
130	135	140
Val Ile Glu Ser Ala Ile Glu Val Ile Thr Tyr Ile Gly Glu Glu Val		
145	150	155
Lys Val Ile Pro Ala Gly Glu Val Glu Val Ile Asn Lys Val Lys Ala		
165	170	175
Ala Phe Ser Thr Ala Ala Thr Ala Ala Asp Glu Ala Pro Ala Asn Asp		
180	185	190
Lys Phe Thr Val Phe Val Ser Ser Phe Asn Lys Ala Ile Lys Glu Thr		
195	200	205
Thr Gly Gly Ala Tyr Ala Gly Tyr Lys Phe Ile Pro Thr Leu Glu Ala		
210	215	220
Ala Val Lys Gln Ala Tyr Ala Ala Ser Ser Ala Thr Ala Pro Glu Val		
225	230	235
Lys Tyr Ala Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Ser Ala Met		
245	250	255
Ser Glu Ala Gln Lys Glu Ala Lys Pro Ala Ala Ala Ile Ser Ala Ala		
260	265	270
Thr Thr Thr Ile Ser Ala Ser Thr Ala Thr Pro Ala Ala Pro Pro Pro		
275	280	285
Pro Gln Leu Gly Thr Ala Thr Pro Ala Ala Val Ala Gly Gly Tyr Lys		
290	295	300
Val		
305		

<210> 136
<211> 294
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 136

Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Met Ala Leu		
1	5	10
15		

Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Thr Pro Pro
 20 25 30
 Thr Pro Ala Thr Pro Ala Val Pro Gly Ala Ala Ala Gly Lys Ala Thr
 35 40 45
 Thr His Glu Gln Lys Leu Ile Glu Asp Ile Asn Ala Ala Phe Lys Trp
 50 55 60
 Trp Pro Ala Ser Ala Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Thr
 65 70 75 80
 Ala Phe Ser Lys Ala Asn Ile Ala Gly Ala Ser Thr Lys Gly Leu Asp
 85 90 95
 Ala Ala Tyr Ser Val Val Tyr Asn Thr Ala Ala Gly Ala Thr Pro Glu
 100 105 110
 Ala Lys Tyr Asp Ser Phe Val Thr Ala Leu Thr Glu Ala Leu Arg Ile
 115 120 125
 Met Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Thr Glu Glu
 130 135 140
 Glu Val Pro Ser Ala Lys Ile Leu Arg Ala Asn Ser Arg Ser Ser Thr
 145 150 155 160
 Arg Ser Ser Arg Phe Lys Ile Ala Ala Thr Val Ala Thr Pro Leu Ser
 165 170 175
 His Ser Thr Ala Ala Asn Ser Ala Pro Ala Asn Asp Lys Phe Thr Val
 180 185 190
 Phe Glu Gly Ala Phe Asn Lys Ala Ile Lys Glu Arg His Gly Gly Pro
 195 200 205
 Thr Glu Thr Tyr Lys Phe Ile Pro Ser Leu Glu Ala Ala Val Lys Gln
 210 215 220
 Ala Tyr Gly Ala Thr Val Ala Arg Ala Pro Glu Val Lys Tyr Ala Val
 225 230 235 240
 Phe Glu Ala Gly Leu Thr Lys Ala Ile Thr Ala Met Ser Glu Ala Gln
 245 250 255
 Lys Val Ala Lys Pro Val Arg Leu Ser Pro Gln Pro Pro Gln Val Leu
 260 265 270
 Pro Leu Ala Ala Gly Gly Ala Ala Thr Val Ala Ala Ala Ser Asp Ser
 275 280 285
 Arg Gly Gly Tyr Lys Val
 290

<210> 137
 <211> 175
 <212> PRT
 <213> Phalaris aquatica (Canary grass)

<400> 137
 Ala Lys Tyr Asp Ala Phe Ile Ala Ala Leu Thr Glu Ala Leu Arg Val
 1 5 10 15
 Ile Ala Gly Ala Phe Glu Val His Ala Val Lys Pro Ala Thr Glu Glu
 20 25 30
 Val Pro Ala Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Val Asp Lys
 35 40 45
 Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn Ser Ala Pro
 50 55 60
 Ala Asn Asp Lys Phe Thr Val Phe Glu Gly Ala Phe Asn Lys Ala Ile
 65 70 75 80
 Lys Glu Arg His Gly Gly Ala Tyr Glu Thr Tyr Lys Phe Ile Pro Ser
 85 90 95
 Leu Glu Ala Ser Arg Ser Lys Gln Ala Tyr Gly Ala Thr Val Ala Arg

	100	105	110
Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Gly Leu Thr Lys Ala			
115	120	125	
Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Val Arg Ser			
130	135	140	
Val Thr Ala Ala Ala Ala Gly Ala Ala Thr Ala Ala Gly Gly Ala Ala			
145	150	155	160
Thr Val Ala Ala Ser Arg Pro Thr Ser Ala Gly Gly Tyr Lys Val			
165	170	175	

<210> 138

<211> 263

<212> PRT

<213> Phleum pratense (Common timothy)

<400> 138

Met Ala Ser Ser Ser Val Leu Leu Val Val Val Leu Phe Ala Val			
1	5	10	15
Phe Leu Gly Ser Ala Tyr Gly Ile Pro Lys Val Pro Pro Gly Pro Asn			
20	25	30	
Ile Thr Ala Thr Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp			
35	40	45	
Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys			
50	55	60	
Gly Tyr Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr Gly Cys			
65	70	75	80
Gly Asn Thr Pro Ile Phe Lys Ser Gly Arg Gly Cys Gly Ser Cys Phe			
85	90	95	
Glu Ile Lys Cys Thr Lys Pro Glu Ala Cys Ser Gly Glu Pro Val Val			
100	105	110	
Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr His Phe			
115	120	125	
Asp Leu Ser Gly His Ala Phe Gly Ala Met Ala Lys Lys Gly Asp Glu			
130	135	140	
Gln Lys Leu Arg Ser Ala Gly Glu Leu Glu Leu Gln Phe Arg Arg Val			
145	150	155	160
Lys Cys Lys Tyr Pro Glu Gly Thr Lys Val Thr Phe His Val Glu Lys			
165	170	175	
Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Val Asn Gly			
180	185	190	
Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys			
195	200	205	
Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr			
210	215	220	
Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Arg Tyr Thr Glu Gly			
225	230	235	240
Gly Thr Lys Thr Glu Ala Glu Asp Val Ile Pro Glu Gly Trp Lys Ala			
245	250	255	
Asp Thr Ser Tyr Glu Ser Lys			
260			

<210> 139

<211> 122

<212> PRT

<213> Phleum pratense (Common timothy)

<400> 139

Met	Ser	Met	Ala	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Leu	Ala	Met	Ala	Val
1										10					15
Leu	Ala	Ala	Leu	Phe	Ala	Gly	Ala	Trp	Cys	Val	Pro	Lys	Val	Thr	Phe
										25					30
Thr	Val	Glu	Lys	Gly	Ser	Asn	Glu	Lys	His	Leu	Ala	Val	Leu	Val	Lys
										35					45
Tyr	Glu	Gly	Asp	Thr	Met	Ala	Glu	Val	Glu	Leu	Arg	Glu	His	Gly	Ser
										50					60
Asp	Glu	Trp	Val	Ala	Met	Thr	Lys	Gly	Glu	Gly	Val	Trp	Thr	Phe	
										65					80
Asp	Ser	Glu	Glu	Pro	Leu	Gln	Gly	Pro	Phe	Asn	Phe	Arg	Phe	Leu	Thr
										85					95
Glu	Lys	Gly	Met	Lys	Asn	Val	Phe	Asp	Asp	Val	Val	Pro	Glu	Lys	Tyr
										100					110
Thr	Ile	Gly	Ala	Thr	Tyr	Ala	Pro	Glu	Glu						
										115					120

<210> 140
<211> 286
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 140

Ala	Asp	Leu	Gly	Tyr	Gly	Pro	Ala	Thr	Pro	Ala	Ala	Pro	Ala	Ala	Gly
1										10					15
Tyr	Thr	Pro	Ala	Thr	Pro	Ala	Ala	Pro	Ala	Gly	Ala	Asp	Ala	Ala	Gly
										20					30
Lys	Ala	Thr	Thr	Glu	Glu	Gln	Lys	Leu	Ile	Glu	Lys	Ile	Asn	Ala	Gly
										35					45
Phe	Lys	Ala	Ala	Leu	Ala	Gly	Ala	Gly	Val	Gln	Pro	Ala	Asp	Lys	Tyr
										50					60
Arg	Thr	Phe	Val	Ala	Thr	Phe	Gly	Pro	Ala	Ser	Asn	Lys	Ala	Phe	Ala
										65					80
Glu	Gly	Leu	Ser	Gly	Glu	Pro	Lys	Gly	Ala	Ala	Glu	Ser	Ser	Ser	Lys
										85					95
Ala	Ala	Leu	Thr	Ser	Lys	Leu	Asp	Ala	Ala	Tyr	Lys	Leu	Ala	Tyr	Lys
										100					110
Thr	Ala	Glu	Gly	Ala	Thr	Pro	Glu	Ala	Lys	Tyr	Asp	Ala	Tyr	Val	Ala
										115					125
Thr	Leu	Ser	Glu	Ala	Leu	Arg	Ile	Ile	Ala	Gly	Thr	Leu	Glu	Val	His
										130					140
Ala	Val	Lys	Pro	Ala	Ala	Glu	Glu	Val	Lys	Val	Ile	Pro	Ala	Gly	Glu
										145					160
Leu	Gln	Val	Ile	Glu	Lys	Val	Asp	Ala	Ala	Phe	Lys	Val	Ala	Ala	Thr
										165					175
Ala	Ala	Asn	Ala	Ala	Pro	Ala	Asn	Asp	Lys	Phe	Thr	Val	Phe	Glu	Ala
										180					190
Ala	Phe	Asn	Asp	Glu	Ile	Lys	Ala	Ser	Thr	Gly	Gly	Ala	Tyr	Glu	Ser
										195					205
Tyr	Lys	Phe	Ile	Pro	Ala	Leu	Glu	Ala	Ala	Val	Lys	Gln	Ala	Tyr	Ala
										210					220
Ala	Thr	Val	Ala	Thr	Ala	Pro	Glu	Val	Lys	Tyr	Thr	Val	Phe	Glu	Thr
										225					240
Ala	Leu	Lys	Lys	Ala	Ile	Thr	Ala	Met	Ser	Glu	Ala	Gln	Lys	Ala	Ala

	245	250	255
Lys Pro Ala Ala Ala Ala Thr Ala Thr Ala Ala Val Gly Ala			
260	265	270	
Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Val			
275	280	285	

<210> 141
<211> 284
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 141			
Ala Ala Ala Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg			
1	5	10	15
Ser Tyr Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala			
20	25	30	
Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu			
35	40	45	
Asp Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val			
50	55	60	
Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser			
65	70	75	80
Ser Lys Ala Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp			
85	90	95	
Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu			
100	105	110	
Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val			
115	120	125	
Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu			
130	135	140	
Pro Gly Met Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys			
145	150	155	160
Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro			
165	170	175	
Ala Asp Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile			
180	185	190	
Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser			
195	200	205	
Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala			
210	215	220	
Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile			
225	230	235	240
Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala			
245	250	255	
Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser			
260	265	270	
Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val			
275	280		

<210> 142
<211> 132
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 142

Met Val Ala Met Phe Leu Ala Val Val Val Leu Gly Leu Ala Thr
1 5 10 15
Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu
20 25 30
Ile Glu Asp Val Asn Ala Ser Phe Arg Ala Ala Met Ala Thr Thr Ala
35 40 45
Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Ala Ala Phe Thr
50 55 60
Val Ser Ser Lys Arg Asn Leu Ala Asp Ala Val Ser Lys Ala Pro Gln
65 70 75 80
Leu Val Pro Lys Leu Asp Glu Val Tyr Asn Ala Ala Tyr Asn Ala Ala
85 90 95
Asp His Ala Ala Pro Glu Asp Lys Tyr Glu Ala Phe Val Leu His Phe
100 105 110
Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Pro Glu Val His Ala Val
115 120 125
Lys Pro Gly Ala
130

<210> 143
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 143
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
1 5 10 15
Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val
20 25 30
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
35 40 45
Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly
50 55 60
Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
65 70 75 80
Arg Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys
85 90 95
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro
100 105 110
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
115 120 125
Gln Gly Met
130

<210> 144
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 144
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
1 5 10 15
Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val
20 25 30
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr

35	40	45
Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly		
50	55	60
Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly		
65	70	75
Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys		
85	90	95
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro		
100	105	110
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu		
115	120	125
Gln Gly Met		
130		

<210> 145
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 145	145	
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu		
1	5	10
Gly His His Leu Ala Ser Ala Ala Ile Phe Gly His Asp Gly Thr Val		
20	25	30
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr		
35	40	45
Gly Ile Met Lys Asp Leu Asp Glu Pro Gly His Leu Ala Pro Thr Gly		
50	55	60
Met Phe Val Ala Ala Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly		
65	70	75
Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys		
85	90	95
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro		
100	105	110
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu		
115	120	125
Gln Gly Met		
130		

<210> 146
<211> 373
<212> PRT
<213> Poa pratensis (Kentucky bluegrass)

<400> 146	146	
Met Asp Lys Ala Asn Gly Ala Tyr Lys Thr Ala Leu Lys Ala Ala Ser		
1	5	10
Ala Val Ala Pro Ala Glu Lys Phe Pro Val Phe Gln Ala Thr Phe Asp		
20	25	30
Lys Asn Leu Lys Glu Gly Leu Ser Gly Pro Asp Ala Val Gly Phe Ala		
35	40	45
Lys Lys Leu Asp Ala Phe Ile Gln Thr Ser Tyr Leu Ser Thr Lys Ala		
50	55	60
Ala Glu Pro Lys Glu Lys Phe Asp Leu Phe Val Leu Ser Leu Thr Glu		
65	70	75
		80

Val Leu Arg Phe Met Ala Gly Ala Val Lys Ala Pro Pro Ala Ser Lys
 85 90 95
 Phe Pro Ala Lys Pro Ala Pro Lys Val Ala Ala Tyr Thr Pro Ala Ala
 100 105 110
 Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln Lys Leu Ile
 115 120 125
 Glu Lys Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Gly
 130 135 140
 Val Pro Ala Ala Ser Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala
 145 150 155 160
 Ala Ser Asn Lys Ala Phe Ala Glu Ala Leu Ser Thr Glu Pro Lys Gly
 165 170 175
 Ala Ala Val Ala Ser Ser Lys Ala Val Leu Thr Ser Lys Leu Asp Ala
 180 185 190
 Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala
 195 200 205
 Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile
 210 215 220
 Ala Gly Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val
 225 230 235 240
 Lys Ala Ile Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala
 245 250 255
 Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp
 260 265 270
 Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile Lys Ala Ser
 275 280 285
 Thr Gly Gly Ala Tyr Gln Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala
 290 295 300
 Ala Val Lys Gln Ser Tyr Ala Ala Thr Val Ala Thr Ala Pro Ala Val
 305 310 315 320
 Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met
 325 330 335
 Ser Gln Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Val Thr Gly Thr
 340 345 350
 Ala Thr Ser Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala
 355 360 365
 Gly Gly Tyr Lys Val
 370

<210> 147
 <211> 333
 <212> PRT
 <213> Poa pratensis (Kentucky bluegrass)

<400> 147
 Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
 1 5 10 15
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Val Gly Tyr Gly Ala
 20 25 30
 Pro Ala Thr Leu Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly
 35 40 45
 Tyr Thr Pro Ala Ala Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp
 50 55 60
 Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Val
 65 70 75 80
 Ala Ala Ala Ala Gly Val Pro Ala Val Asp Lys Tyr Lys Thr Phe Val

	85	90	95												
Ala	Thr	Phe	Gly	Thr	Ala	Ser	Asn	Lys	Ala	Phe	Ala	Glu	Ala	Leu	Ser
		100			105								110		
Thr	Glu	Pro	Lys	Gly	Ala	Ala	Ala	Ser	Ser	Asn	Ala	Val	Leu	Thr	
		115			120								125		
Ser	Lys	Leu	Asp	Ala	Ala	Tyr	Lys	Leu	Ala	Tyr	Lys	Ser	Ala	Glu	Gly
		130			135								140		
Ala	Thr	Pro	Glu	Ala	Lys	Tyr	Asp	Ala	Tyr	Val	Ala	Thr	Leu	Ser	Glu
		145			150								155		160
Ala	Leu	Arg	Ile	Ile	Ala	Gly	Thr	Leu	Glu	Val	His	Ala	Val	Lys	Pro
		165			170								175		
Ala	Gly	Glu	Glu	Val	Lys	Ala	Ile	Pro	Ala	Gly	Glu	Leu	Gln	Val	Ile
		180			185								190		
Asp	Lys	Val	Asp	Ala	Ala	Phe	Lys	Val	Ala	Ala	Thr	Ala	Ala	Asn	Ala
		195			200								205		
Ala	Pro	Ala	Asn	Asp	Lys	Phe	Thr	Val	Phe	Glu	Ala	Ala	Phe	Asn	Asp
		210			215								220		
Ala	Ile	Lys	Ala	Ser	Thr	Gly	Gly	Ala	Tyr	Gln	Ser	Tyr	Lys	Phe	Ile
		225			230								235		240
Pro	Ala	Leu	Glu	Ala	Ala	Val	Lys	Gln	Ser	Tyr	Ala	Ala	Thr	Val	Ala
		245			250								255		
Thr	Ala	Pro	Ala	Val	Lys	Tyr	Thr	Val	Phe	Glu	Thr	Ala	Leu	Lys	Lys
		260			265								270		
Ala	Ile	Thr	Ala	Met	Ser	Gln	Ala	Gln	Lys	Ala	Ala	Lys	Pro	Ala	Ala
		275			280								285		
Ala	Val	Thr	Ala	Thr	Ala	Thr	Gly	Ala	Val	Gly	Ala	Ala	Thr	Gly	Ala
		290			295								300		
Val	Gly	Ala	Ala	Thr	Gly	Ala	Ala	Thr	Ala	Ala	Gly	Gly	Tyr	Lys	
		305			310								315		320
Thr	Gly	Ala	Ala	Thr	Pro	Thr	Ala	Gly	Gly	Tyr	Lys	Val			
		325			330										

<210> 148

<211> 307

<212> PRT

<213> Poa pratensis (Kentucky bluegrass)

<400> 148

Met	Ala	Val	Gln	Lys	Tyr	Thr	Val	Ala	Leu	Phe	Leu	Val	Ala	Leu	Val
		1		5			10		15						
Val	Gly	Pro	Ala	Ala	Ser	Tyr	Ala	Ala	Asp	Leu	Ser	Tyr	Gly	Ala	Pro
		20			25								30		
Ala	Thr	Pro	Ala	Ala	Pro	Ala	Ala	Gly	Tyr	Thr	Pro	Ala	Ala	Pro	Ala
		35			40								45		
Gly	Ala	Ala	Pro	Lys	Ala	Thr	Thr	Asp	Glu	Gln	Lys	Met	Ile	Glu	Lys
		50			55								60		
Ile	Asn	Val	Gly	Phe	Lys	Ala	Ala	Val	Ala	Ala	Ala	Gly	Gly	Val	Pro
		65			70								80		
Ala	Ala	Asn	Lys	Tyr	Lys	Thr	Phe	Val	Ala	Thr	Phe	Gly	Ala	Ala	Ser
		85			90								95		
Asn	Lys	Ala	Phe	Ala	Glu	Ala	Leu	Ser	Thr	Glu	Pro	Lys	Gly	Ala	Ala
		100			105								110		
Val	Asp	Ser	Ser	Lys	Ala	Ala	Leu	Thr	Ser	Lys	Leu	Asp	Ala	Ala	Tyr
		115			120								125		
Lys	Leu	Ala	Tyr	Lys	Ser	Ala	Glu	Gly	Ala	Thr	Pro	Glu	Ala	Lys	Tyr
		130			135								140		

Asp Asp Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly
 145 150 155 160
 Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val Lys Ala
 165 170 175
 Thr Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala Ala Phe
 180 185 190
 Lys Val Ala Ala Thr Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe
 195 200 205
 Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile Lys Ala Ser Thr Gly
 210 215 220
 Gly Ala Tyr Gln Ser Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val
 225 230 235 240
 Lys Gln Ser Tyr Ala Ala Thr Val Ala Thr Ala Pro Ala Val Lys Tyr
 245 250 255
 Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Gln
 260 265 270
 Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala Thr Gly Thr Ala Thr
 275 280 285
 Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Gly Gly
 290 295 300
 Tyr Lys Val
 305

<210> 149
 <211> 209
 <212> PRT
 <213> Polistes annularis (Paper wasp)

<400> 149
 Ser Ser Gln Gly Val Asp Tyr Cys Lys Ile Lys Cys Pro Ser Gly Ile
 1 5 10 15
 His Thr Val Cys Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys
 20 25 30
 Ala Gly Lys Val Ile Lys Ser Val Gly Pro Thr Glu Glu Lys Lys
 35 40 45
 Leu Ile Val Ser Glu His Asn Arg Phe Arg Gln Lys Val Ala Gln Gly
 50 55 60
 Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met
 65 70 75 80
 Asn Asp Leu Val Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp
 85 90 95
 Ala Ser Gln Cys Gln Phe Leu Val His Asp Lys Cys Arg Asn Thr Ala
 100 105 110
 Lys Tyr Pro Val Gly Gln Asn Ile Ala Tyr Ala Gly Gly Ser Asn Leu
 115 120 125
 Pro Asp Val Val Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp
 130 135 140
 Phe Asn Tyr Asn Thr Gly Ile Thr Lys Gln Asn Phe Ala Lys Ile Gly
 145 150 155 160
 His Tyr Thr Gln Met Val Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly
 165 170 175
 Ser Leu Lys Tyr Met Glu Asn Asn Met Gln Asn His Tyr Leu Ile Cys
 180 185 190
 Asn Tyr Gly Pro Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys
 195 200 205
 Lys

<210> 150
<211> 206
<212> PRT
<213> Polistes dominulus (European paper wasp)

<400> 150

Asn	Asp	Tyr	Cys	Lys	Ile	Lys	Cys	Ser	Ser	Gly	Val	His	Thr	Val	Cys
1					5				10					15	
Gln	Tyr	Gly	Glu	Ser	Thr	Lys	Pro	Ser	Lys	Asn	Cys	Ala	Gly	Lys	Leu
					20				25					30	
Ile	Lys	Ser	Val	Gly	Pro	Thr	Glu	Glu	Glu	Lys	Lys	Leu	Ile	Val	Glu
					35				40					45	
Glu	His	Asn	Arg	Phe	Arg	Gln	Lys	Val	Ala	Lys	Gly	Leu	Glu	Thr	Arg
					50				55					60	
Gly	Asn	Pro	Gly	Pro	Gln	Pro	Ala	Ala	Ser	Asn	Met	Asn	Asn	Leu	Val
					65				70					80	
Trp	Asn	Asp	Glu	Leu	Ala	Lys	Ile	Ala	Gln	Val	Trp	Ala	Ser	Gln	Cys
					85				90					95	
Gln	Ile	Leu	Val	His	Asp	Lys	Cys	Arg	Asn	Thr	Glu	Lys	Tyr	Gln	Val
					100				105					110	
Gly	Gln	Asn	Ile	Ala	Tyr	Ala	Gly	Ser	Ser	Asn	His	Phe	Pro	Ser	Val
					115				120					125	
Thr	Lys	Leu	Ile	Gln	Leu	Trp	Glu	Asn	Glu	Val	Lys	Asp	Phe	Asn	Tyr
					130				135					140	
Asn	Thr	Gly	Ile	Thr	Asn	Lys	Asn	Phe	Gly	Lys	Val	Gly	His	Tyr	Thr
					145				150					160	
Gln	Met	Val	Trp	Gly	Asn	Thr	Lys	Glu	Val	Gly	Cys	Gly	Ser	Leu	Lys
					165				170					175	
Tyr	Val	Glu	Lys	Asn	Met	Gln	Ile	His	Tyr	Leu	Ile	Cys	Asn	Tyr	Gly
					180				185					190	
Pro	Ala	Gly	Asn	Tyr	Leu	Gly	Gln	Pro	Ile	Tyr	Thr	Lys	Lys		
					195				200					205	

<210> 151
<211> 205
<212> PRT
<213> Polistes exclamans (Paper wasp)

<400> 151

Val	Asp	Tyr	Cys	Lys	Ile	Lys	Cys	Pro	Ser	Gly	Ile	His	Thr	Val	Cys
1					5				10					15	
Gln	Tyr	Gly	Glu	Ser	Thr	Lys	Pro	Ser	Lys	Asn	Cys	Ala	Gly	Lys	Val
					20				25					30	
Ile	Lys	Ser	Val	Gly	Pro	Thr	Glu	Glu	Glu	Lys	Lys	Leu	Ile	Val	Ser
					35				40					45	
Glu	His	Asn	Arg	Phe	Arg	Gln	Lys	Val	Ala	Gln	Gly	Leu	Glu	Thr	Arg
					50				55					60	
Gly	Asn	Pro	Gly	Pro	Gln	Pro	Ala	Ala	Ser	Asp	Met	Asn	Asp	Leu	Val
					65				70					80	
Trp	Asn	Asp	Glu	Leu	Ala	His	Ile	Ala	Gln	Val	Trp	Ala	Ser	Gln	Cys
					85				90					95	
Gln	Phe	Leu	Val	His	Asp	Lys	Cys	Arg	Asn	Thr	Ala	Lys	Tyr	Pro	Val
					100				105					110	

Gly Gln Asn Ile Ala Tyr Ala Gly Gly Ser Lys Leu Pro Asp Val Val
 115 120 125
 Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp Phe Asn Tyr Asn
 130 135 140
 Thr Gly Ile Thr Lys Gln Asn Phe Ala Lys Ile Gly His Tyr Thr Gln
 145 150 155 160
 Met Val Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser Leu Lys Tyr
 165 170 175
 Ile Glu Asn Lys Met Gln Asn His Tyr Leu Ile Cys Asn Tyr Gly Pro
 180 185 190
 Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys Lys
 195 200 205

<210> 152
 <211> 205
 <212> PRT
 <213> Polistes fuscatus (Paper wasp)

<400> 152
 Val Asp Tyr Cys Lys Ile Lys Cys Ser Ser Gly Ile His Thr Val Cys
 1 5 10 15
 Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys Ala Asp Lys Val
 20 25 30
 Ile Lys Ser Val Gly Pro Thr Glu Glu Glu Lys Lys Leu Ile Val Asn
 35 40 45
 Glu His Asn Arg Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg
 50 55 60
 Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met Asn Asn Leu Val
 65 70 75 80
 Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp Ala Ser Gln Cys
 85 90 95
 Gln Ile Leu Val His Asp Lys Cys Arg Asn Thr Ala Lys Tyr Gln Val
 100 105 110
 Gly Gln Asn Ile Ala Tyr Ala Gly Ser Lys Leu Pro Asp Val Val
 115 120 125
 Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp Phe Asn Tyr Asn
 130 135 140
 Lys Gly Ile Thr Lys Gln Asn Phe Gly Lys Val Gly His Tyr Thr Gln
 145 150 155 160
 Met Ile Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Leu Lys Tyr
 165 170 175
 Met Lys Asn Asn Met Gln His His Tyr Leu Ile Cys Asn Tyr Gly Pro
 180 185 190
 Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys Lys
 195 200 205

<210> 153
 <211> 160
 <212> PRT
 <213> Prunus avium (Cherry)

<400> 153
 Met Gly Val Phe Thr Tyr Glu Ser Glu Phe Thr Ser Glu Ile Pro Pro
 1 5 10 15
 Pro Arg Leu Phe Lys Ala Phe Val Leu Asp Ala Asn Leu Val Pro

	20	25	30												
Lys	Ile	Ala	Pro	Gln	Ala	Ile	Lys	His	Ser	Glu	Ile	Leu	Glu	Gly	Asp
	35	40	45												
Gly	Gly	Pro	Gly	Thr	Ile	Lys	Lys	Ile	Thr	Phe	Gly	Glu	Gly	Ser	Gln
	50	55	60												
Tyr	Gly	Tyr	Val	Lys	His	Lys	Ile	Asp	Ser	Ile	Asp	Lys	Glu	Asn	Tyr
	65	70	75	80											
Ser	Tyr	Ser	Tyr	Thr	Leu	Ile	Glu	Gly	Asp	Ala	Leu	Gly	Asp	Thr	Leu
	85	90	95												
Glu	Lys	Ile	Ser	Tyr	Glu	Thr	Lys	Leu	Val	Ala	Ser	Pro	Ser	Gly	Gly
	100	105	110												
Ser	Ile	Ile	Lys	Ser	Thr	Ser	His	Tyr	His	Thr	Lys	Gly	Asn	Val	Glu
	115	120	125												
Ile	Lys	Glu	Glu	His	Val	Lys	Ala	Gly	Lys	Glu	Lys	Ala	Ser	Asn	Leu
	130	135	140												
Phe	Lys	Leu	Ile	Glu	Thr	Tyr	Leu	Lys	Gly	His	Pro	Asp	Ala	Tyr	Asn
	145	150	155	160											

<210> 154

<211> 181

<212> PRT

<213> Rattus norvegicus (Rat)

<400> 154

Met	Lys	Leu	Leu	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Thr	Leu	Val	Cys	
1		5						10			15				
Gly	His	Ala	Glu	Glu	Ala	Ser	Ser	Thr	Arg	Gly	Asn	Leu	Asp	Val	Ala
	20							25			30				
Lys	Leu	Asn	Gly	Asp	Trp	Phe	Ser	Ile	Val	Val	Ala	Ser	Asn	Lys	Arg
	35							40			45				
Glu	Lys	Ile	Glu	Glu	Asn	Gly	Ser	Met	Arg	Val	Phe	Met	Gln	His	Ile
	50							55			60				
Asp	Val	Leu	Glu	Asn	Ser	Leu	Gly	Phe	Lys	Phe	Arg	Ile	Lys	Glu	Asn
	65							70			75			80	
Gly	Glu	Cys	Arg	Glu	Leu	Tyr	Leu	Val	Ala	Tyr	Lys	Thr	Pro	Glu	Asp
		85						90			95				
Gly	Glu	Tyr	Phe	Val	Glu	Tyr	Asp	Gly	Gly	Asn	Thr	Phe	Thr	Ile	Leu
		100						105			110				
Lys	Thr	Asp	Tyr	Asp	Arg	Tyr	Val	Met	Phe	His	Leu	Ile	Asn	Phe	Lys
		115						120			125				
Asn	Gly	Glu	Thr	Phe	Gln	Leu	Met	Val	Leu	Tyr	Gly	Arg	Thr	Lys	Asp
		130						135			140				
Leu	Ser	Ser	Asp	Ile	Lys	Glu	Lys	Phe	Ala	Lys	Leu	Cys	Glu	Ala	His
	145				150				155					160	
Gly	Ile	Thr	Arg	Asp	Asn	Ile	Ile	Asp	Leu	Thr	Lys	Thr	Asp	Arg	Cys
					165				170			175			
Leu	Gln	Ala	Arg	Gly											
	180														

<210> 155

<211> 138

<212> PRT

<213> Solenopsis invicta (Red imported fire ant)

<400> 155

Met Lys Ser Phe Val Leu Ala Thr Cys Leu Leu Gly Phe Ala Gln Ile
 1 5 10 15
 Ile Tyr Ala Asp Asn Lys Glu Leu Lys Ile Ile Arg Lys Asp Val Ala
 20 25 30
 Glu Cys Leu Arg Thr Leu Pro Lys Cys Gly Asn Gln Pro Asp Asp Pro
 35 40 45
 Leu Ala Arg Val Asp Val Trp His Cys Ala Met Ala Lys Arg Gly Val
 50 55 60
 Tyr Asp Asn Pro Asp Pro Ala Val Ile Lys Glu Arg Ser Met Lys Met
 65 70 75 80
 Cys Thr Lys Ile Ile Thr Asp Pro Ala Asn Val Glu Asn Cys Lys Lys
 85 90 95
 Val Ala Ser Arg Cys Val Asp Arg Glu Thr Gln Gly Pro Lys Ser Asn
 100 105 110
 Arg Gln Lys Ala Val Asn Ile Ile Gly Cys Ala Leu Arg Ala Gly Val
 115 120 125
 Ala Glu Thr Thr Val Leu Ala Arg Lys Lys
 130 135

<210> 156
 <211> 212
 <212> PRT
 <213> Solenopsis invicta (Red imported fire ant)

<400> 156
 Thr Asn Tyr Cys Asn Leu Gln Ser Cys Lys Arg Asn Asn Ala Ile His
 1 5 10 15
 Thr Met Cys Gln Tyr Thr Ser Pro Thr Pro Gly Pro Met Cys Leu Glu
 20 25 30
 Tyr Ser Asn Val Gly Phe Thr Asp Ala Glu Lys Asp Ala Ile Val Asn
 35 40 45
 Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg
 50 55 60
 Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn Leu Thr
 65 70 75 80
 Trp Asp Pro Glu Leu Ala Thr Ile Ala Gln Arg Trp Ala Asn Gln Cys
 85 90 95
 Thr Phe Glu His Asp Ala Cys Arg Asn Val Glu Arg Phe Ala Val Gly
 100 105 110
 Gln Asn Ile Ala Ala Thr Ser Ser Gly Lys Asn Lys Ser Thr Pro
 115 120 125
 Asn Glu Met Ile Leu Leu Trp Tyr Asn Glu Val Lys Asp Phe Asp Asn
 130 135 140
 Arg Trp Ile Ser Ser Phe Pro Ser Asp Asp Asn Ile Leu Met Lys Val
 145 150 155 160
 Glu His Tyr Thr Gln Ile Val Trp Ala Lys Thr Ser Lys Ile Gly Cys
 165 170 175
 Ala Arg Ile Met Phe Lys Glu Pro Asp Asn Trp Thr Lys His Tyr Leu
 180 185 190
 Val Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu Gly Ala Pro Ile Tyr
 195 200 205
 Glu Ile Lys Lys
 210

<210> 157

<211> 117
<212> PRT
<213> Solenopsis invicta (Red imported fire ant)

<400> 157

Leu	Asp	Ile	Lys	Glu	Ile	Ser	Ile	Met	Asn	Arg	Ile	Leu	Glu	Lys	Cys
1				5					10					15	
Ile	Arg	Thr	Val	Pro	Lys	Arg	Glu	Asn	Asp	Pro	Ile	Asn	Pro	Leu	Lys
	20						25						30		
Asn	Val	Asn	Val	Leu	Tyr	Cys	Ala	Phe	Thr	Lys	Arg	Gly	Ile	Phe	Thr
	35						40				45				
Pro	Lys	Gly	Val	Asn	Thr	Lys	Gln	Tyr	Ile	Asn	Tyr	Cys	Glu	Lys	Thr
	50						55				60				
Ile	Ile	Ser	Pro	Ala	Asp	Ile	Lys	Leu	Cys	Lys	Ile	Ala	Ser	Lys	
65					70					75			80		
Cys	Val	Lys	Lys	Val	Tyr	Asp	Arg	Pro	Gly	Pro	Val	Ile	Glu	Arg	Ser
	85						90					95			
Lys	Asn	Leu	Leu	Ser	Cys	Val	Leu	Lys	Lys	Gly	Leu	Leu	Glu	Leu	Thr
	100						105					110			
Val	Tyr	Gly	Lys	Asn											
	115														

<210> 158
<211> 119
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)

<400> 158

Asp	Ile	Glu	Ala	Gln	Arg	Val	Leu	Arg	Lys	Asp	Ile	Ala	Glu	Cys	Ala
1				5					10				15		
Arg	Thr	Leu	Pro	Lys	Cys	Val	Asn	Gln	Pro	Asp	Asp	Pro	Leu	Ala	Arg
	20							25					30		
Val	Asp	Val	Trp	His	Cys	Ala	Met	Ser	Lys	Arg	Gly	Val	Tyr	Asp	Asn
	35						40				45				
Pro	Asp	Pro	Ala	Val	Val	Lys	Glu	Lys	Asn	Ser	Lys	Met	Cys	Pro	Lys
	50						55				60				
Ile	Ile	Thr	Asp	Pro	Ala	Asp	Val	Glu	Asn	Cys	Lys	Lys	Val	Val	Ser
65							70			75			80		
Arg	Cys	Val	Asp	Arg	Glu	Thr	Gln	Arg	Pro	Arg	Ser	Asn	Arg	Gln	Lys
	85						90				95				
Ala	Ile	Asn	Ile	Thr	Gly	Cys	Ile	Leu	Arg	Ala	Gly	Val	Val	Glu	Ala
	100							105				110			
Thr	Val	Leu	Ala	Arg	Glu	Lys									
	115														

<210> 159
<211> 211
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)

<400> 159

Thr	Asn	Tyr	Cys	Asn	Leu	Gln	Ser	Cys	Lys	Arg	Asn	Asn	Ala	Ile	His
1				5					10				15		
Thr	Met	Cys	Gln	Tyr	Thr	Ser	Pro	Thr	Pro	Gly	Pro	Met	Cys	Leu	Glu
	20							25				30			

Tyr Ser Asn Val Gly Phe Thr Asp Ala Glu Lys Asp Ala Ile Val Asn
 35 40 45
 Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg
 50 55 60
 Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn Leu Thr
 65 70 75 80
 Trp Asp Pro Glu Leu Ala Thr Ile Ala Gln Arg Trp Ala Asn Gln Cys
 85 90 95
 Thr Phe Glu His Asp Ala Cys Arg Asn Val Glu Arg Phe Ala Val Gly
 100 105 110
 Gln Asn Ile Ala Ala Thr Ser Ser Gly Lys Asn Lys Ser Thr Leu
 115 120 125
 Ser Asp Met Ile Leu Leu Trp Tyr Asn Glu Val Lys Asp Phe Asp Asn
 130 135 140
 Arg Trp Ile Ser Ser Phe Pro Ser Asp Gly Asn Ile Leu Met His Val
 145 150 155 160
 Gly His Tyr Thr Gln Ile Val Trp Ala Lys Thr Lys Lys Ile Gly Cys
 165 170 175
 Gly Arg Ile Met Phe Lys Glu Asp Asn Trp Asn Lys His Tyr Leu Val
 180 185 190
 Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu Gly Ala Gln Ile Tyr Glu
 195 200 205
 Ile Lys Lys
 210

<210> 160
 <211> 202
 <212> PRT
 <213> Vespa crabro (European hornet)

<400> 160
 Asn Asn Tyr Cys Lys Ile Lys Cys Arg Ser Gly Ile His Thr Leu Cys
 1 5 10 15
 Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Asn Val Val Lys
 20 25 30
 Ala Ser Gly Leu Thr Lys Gln Glu Asn Leu Glu Ile Leu Lys Gln His
 35 40 45
 Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Asn
 50 55 60
 Pro Gly Pro Gln Pro Pro Ala Lys Ser Met Asn Thr Leu Val Trp Asn
 65 70 75 80
 Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Asn Gln Cys Asn Tyr
 85 90 95
 Gly His Asp Asn Cys Arg Asn Ser Ala Lys Tyr Ser Val Gly Gln Asn
 100 105 110
 Ile Ala Glu Gly Ser Thr Thr Ala Asp Asn Phe Gly Ser Val Ser Asn
 115 120 125
 Met Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Gln Tyr Gly Ser
 130 135 140
 Pro Lys Asn Lys Leu Asn Lys Val Gly His Tyr Thr Gln Met Val Trp
 145 150 155 160
 Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr Ile Glu Asn
 165 170 175
 Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
 180 185 190
 Val Gly Asn Glu Pro Ile Tyr Glu Arg Lys

195

200

<210> 161

<211> 202

<212> PRT

<213> Vespa crabro (European hornet)

<400> 161

Asn Asn Tyr Cys Lys Ile Lys Cys Arg Ser Gly Ile His Thr Leu Cys
1 5 10 15
Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Asn Val Val Lys
20 25 30
Ala Ser Gly Leu Thr Lys Gln Glu Asn Leu Glu Ile Leu Lys Gln His
35 40 45
Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Ser Met Asn Thr Leu Val Trp Asn
65 70 75 80
Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Asn Gln Cys Asn Tyr
85 90 95
Gly His Asp Asn Cys Arg Asn Ser Ala Lys Tyr Ser Val Gly Gln Asn
100 105 110
Ile Ala Glu Gly Ser Thr Ser Ala Asp Asn Phe Val Asn Val Ser Asn
115 120 125
Met Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Gln Tyr Gly Ser
130 135 140
Pro Lys Asn Lys Leu Asn Lys Val Gly His Tyr Thr Gln Met Val Trp
145 150 155 160
Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Glu Asp Tyr Ile Glu Asp
165 170 175
Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
180 185 190
Val Gly Asn Glu Pro Ile Tyr Glu Arg Lys
195 200

<210> 162

<211> 204

<212> PRT

<213> Vespula flavopilosa (Yellow jacket) (Wasp)

<400> 162

Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Val Val Val
20 25 30
Ser Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
35 40 45
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn
65 70 75 80
Asp Glu Leu Ala Tyr Val Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
85 90 95
Gly His Asp Thr Cys Arg Asp Ile Ala Lys Tyr Gln Val Gly Gln Asn
100 105 110

Val Ala Leu Thr Gly Ser Thr Ala Ala Lys Tyr Asp Asp Pro Val Lys
 115 120 125
 Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
 130 135 140
 Lys Phe Ser Gly Asn Asn Phe Leu Lys Thr Gly His Tyr Thr Gln Met
 145 150 155 160
 Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Phe Ile
 165 170 175
 Gln Glu Lys Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
 180 185 190
 Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
 195 200

<210> 163
 <211> 204
 <212> PRT
 <213> Vespula germanica (Yellow jacket) (Wasp)

<400> 163
 Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
 1 5 10 15
 Cys Lys Tyr Glu Ser Leu Lys Pro Asn Cys Ala Asn Lys Lys Val Val
 20 25 30
 Ala Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
 35 40 45
 Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
 50 55 60
 Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Ser
 65 70 75 80
 Asp Glu Leu Ala Tyr Ile Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
 85 90 95
 Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Pro Val Gly Gln Asn
 100 105 110
 Val Ala Leu Thr Gly Ser Thr Ala Ala Lys Tyr Asp Asn Pro Val Lys
 115 120 125
 Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
 130 135 140
 Lys Phe Ser Glu Asn Asn Phe Leu Lys Ile Gly His Tyr Thr Gln Met
 145 150 155 160
 Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Tyr Ile
 165 170 175
 Gln Asp Lys Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
 180 185 190
 Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
 195 200

<210> 164
 <211> 300
 <212> PRT
 <213> Vespula maculifrons (Eastern yellow jacket) (Wasp)

<400> 164
 Gly Pro Lys Cys Pro Phe Asn Ser Asp Thr Val Ser Ile Ile Ile Glu
 1 5 10 15
 Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu Gln Thr Leu Gln

	20	25	30												
Asn	His	Pro	Glu	Phe	Lys	Lys	Thr	Ile	Thr	Arg	Pro	Val	Val	Phe	
	35			40						45					
Ile	Thr	His	Gly	Phe	Thr	Ser	Ser	Ala	Ser	Glu	Lys	Asn	Phe	Ile	Asn
	50				55					60					
Leu	Ala	Lys	Ala	Leu	Val	Asp	Lys	Asp	Asn	Tyr	Met	Val	Ile	Ser	Ile
	65				70				75			80			
Asp	Trp	Gln	Thr	Ala	Ala	Cys	Thr	Asn	Glu	Tyr	Pro	Gly	Leu	Lys	Tyr
	85					90				95					
Ala	Tyr	Tyr	Pro	Thr	Ala	Ala	Ser	Asn	Thr	Arg	Leu	Val	Gly	Gln	Tyr
	100					105				110					
Ile	Ala	Thr	Ile	Thr	Gln	Lys	Leu	Val	Lys	Asp	Tyr	Lys	Ile	Ser	Met
	115					120				125					
Ala	Asn	Ile	Arg	Leu	Ile	Gly	His	Ser	Leu	Gly	Ala	His	Val	Ser	Gly
	130					135				140					
Phe	Ala	Gly	Lys	Arg	Val	Gln	Glu	Leu	Lys	Leu	Gly	Lys	Tyr	Ser	Glu
	145				150				155			160			
Ile	Ile	Gly	Leu	Asp	Pro	Ala	Arg	Pro	Ser	Phe	Asp	Ser	Asn	His	Cys
	165					170				175					
Ser	Glu	Arg	Leu	Cys	Glu	Thr	Asp	Ala	Glu	Tyr	Val	Gln	Ile	Ile	His
	180					185				190					
Thr	Ser	Asn	Tyr	Leu	Gly	Thr	Glu	Lys	Ile	Leu	Gly	Thr	Val	Asp	Phe
	195					200				205					
Tyr	Met	Asn	Asn	Gly	Lys	Asn	Asn	Pro	Gly	Cys	Gly	Arg	Phe	Phe	Ser
	210				215				220						
Glu	Val	Cys	Ser	His	Thr	Arg	Ala	Val	Ile	Tyr	Met	Ala	Glu	Cys	Ile
	225				230				235			240			
Lys	His	Glu	Cys	Cys	Leu	Ile	Gly	Ile	Pro	Arg	Ser	Lys	Ser	Ser	Gln
	245					250				255					
Pro	Ile	Ser	Arg	Cys	Thr	Lys	Gln	Glu	Cys	Val	Cys	Val	Gly	Leu	Asn
	260					265				270					
Ala	Lys	Lys	Tyr	Pro	Ser	Arg	Gly	Ser	Phe	Tyr	Val	Pro	Val	Glu	Ser
	275					280				285					
Thr	Ala	Pro	Phe	Cys	Asn	Asn	Lys	Gly	Lys	Ile	Ile				
												290	295	300	

<210> 165

<211> 204

<212> PRT

<213> *Vespa maculifrons* (Eastern yellow jacket) (Wasp)

<400> 165

Asn	Asn	Tyr	Cys	Lys	Ile	Lys	Cys	Leu	Lys	Gly	Gly	Val	His	Thr	Ala
					5			10				15			

Cys	Lys	Tyr	Gly	Ser	Leu	Lys	Pro	Asn	Cys	Gly	Asn	Lys	Lys	Val	
					20				25			30			

Ser	Tyr	Gly	Leu	Thr	Lys	Gln	Glu	Lys	Gln	Asp	Ile	Leu	Lys	Glu	His
					35			40			45				

Asn	Asp	Phe	Arg	Gln	Lys	Ile	Ala	Arg	Gly	Leu	Glu	Thr	Arg	Gly	Asn
						50		55		60					

Pro	Gly	Pro	Gln	Pro	Pro	Ala	Lys	Asn	Met	Lys	Asn	Leu	Val	Trp	Ser
						65		70		75			80		

Asp	Glu	Leu	Ala	Tyr	Ile	Ala	Gln	Val	Trp	Ala	Asn	Gln	Cys	Gln	Tyr
					85			90			95				

Gly	His	Asp	Thr	Cys	Arg	Asp	Val	Ala	Lys	Tyr	Gln	Val	Gly	Gln	Asn
								100		105			110		

Val Ala Leu Thr Gly Ser Thr Ala Ala Val Tyr Asn Asp Pro Val Lys
 115 120 125
 Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
 130 135 140
 Lys Phe Ser Glu Asn Asn Phe Leu Lys Ile Gly His Tyr Thr Gln Met
 145 150 155 160
 Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Tyr Ile
 165 170 175
 Gln Glu Asn Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
 180 185 190
 Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
 195 200

<210> 166
 <211> 204
 <212> PRT
 <213> *Vespula pensylvanica* (Western yellow jacket) (Wasp)

<400> 166
 Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
 1 5 10 15
 Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Ile Val Val
 20 25 30
 Ser Tyr Gly Leu Thr Lys Glu Glu Lys Gln Asp Ile Leu Lys Glu His
 35 40 45
 Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
 50 55 60
 Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn
 65 70 75 80
 Asp Glu Leu Ala Tyr Val Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
 85 90 95
 Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Pro Val Gly Gln Asn
 100 105 110
 Val Ala Leu Thr Gly Ser Thr Ala Asp Lys Tyr Asp Asn Pro Val Lys
 115 120 125
 Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
 130 135 140
 Lys Phe Ser Glu Asn Asn Phe Asn Lys Ile Gly His Tyr Thr Gln Met
 145 150 155 160
 Val Trp Ala Asn Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr Ile
 165 170 175
 Gln Asn Glu Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
 180 185 190
 Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
 195 200

<210> 167
 <211> 205
 <212> PRT
 <213> *Vespula squamosa* (Southern yellow jacket) (Wasp)

<400> 167
 Val Asp Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
 1 5 10 15
 Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Asn Met Val Val

20	25	30	
Lys Ser Tyr Gly Val Thr Gln Ala Glu Lys Gln Glu Ile Leu Lys Ile			
35	40	45	
His Asn Asp Phe Arg Asn Lys Val Ala Arg Gly Leu Glu Thr Arg Gly			
50	55	60	
Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val Trp			
65	70	75	80
Asn Asn Glu Leu Ala Asn Ile Ala Gln Ile Trp Ala Ser Gln Cys Lys			
85	90	95	
Tyr Gly His Asp Thr Cys Lys Asp Thr Thr Lys Tyr Asn Val Gly Gln			
100	105	110	
Asn Ile Ala Val Ser Ser Thr Ala Ala Val Tyr Glu Asn Val Gly			
115	120	125	
Asn Leu Val Lys Ala Trp Glu Asn Glu Val Lys Asp Phe Asn Pro Thr			
130	135	140	
Ile Ser Trp Glu Gln Asn Glu Phe Lys Lys Ile Gly His Tyr Thr Gln			
145	150	155	160
Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr			
165	170	175	
Val Asp Asn Asn Trp Tyr Thr His Tyr Leu Val Cys Asn Tyr Gly Pro			
180	185	190	
Ala Gly Asn Phe Gly Asn Gln Glu Val Tyr Glu Arg Lys			
195	200	205	

<210> 168

<211> 336

<212> PRT

<213> Vespa vulgaris (Yellow jacket) (Wasp)

<400> 168

Met Glu Glu Asn Met Asn Leu Lys Tyr Leu Leu Leu Phe Val Tyr Phe			
1	5	10	15
Val Gln Val Leu Asn Cys Cys Tyr Gly His Gly Asp Pro Leu Ser Tyr			
20	25	30	
Glu Leu Asp Arg Gly Pro Lys Cys Pro Phe Asn Ser Asp Thr Val Ser			
35	40	45	
Ile Ile Ile Glu Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu			
50	55	60	
Gln Thr Leu Gln Asn His Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg			
65	70	75	80
Pro Val Val Phe Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Thr			
85	90	95	
Asn Phe Ile Asn Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met			
100	105	110	
Val Ile Ser Ile Asp Trp Gln Thr Ala Ala Cys Thr Asn Glu Ala Ala			
115	120	125	
Gly Leu Lys Tyr Leu Tyr Tyr Pro Thr Ala Ala Arg Asn Thr Arg Leu			
130	135	140	
Val Gly Gln Tyr Ile Ala Thr Ile Thr Gln Lys Leu Val Lys His Tyr			
145	150	155	160
Lys Ile Ser Met Ala Asn Ile Arg Leu Ile Gly His Ser Leu Gly Ala			
165	170	175	
His Ala Ser Gly Phe Ala Gly Lys Lys Val Gln Glu Leu Lys Leu Gly			
180	185	190	
Lys Tyr Ser Glu Ile Ile Gly Leu Asp Pro Ala Arg Pro Ser Phe Asp			
195	200	205	

Ser Asn His Cys Ser Glu Arg Leu Cys Glu Thr Asp Ala Glu Tyr Val
 210 215 220
 Gln Ile Ile His Thr Ser Asn Tyr Leu Gly Thr Glu Lys Thr Leu Gly
 225 230 235 240
 Thr Val Asp Phe Tyr Met Asn Asn Gly Lys Asn Gln Pro Gly Cys Gly
 245 250 255
 Arg Phe Phe Ser Glu Val Cys Ser His Ser Arg Ala Val Ile Tyr Met
 260 265 270
 Ala Glu Cys Ile Lys His Glu Cys Cys Leu Ile Gly Ile Pro Lys Ser
 275 280 285
 Lys Ser Ser Gln Pro Ile Ser Ser Cys Thr Lys Gln Glu Cys Val Cys
 290 295 300
 Val Gly Leu Asn Ala Lys Lys Tyr Pro Ser Arg Gly Ser Phe Tyr Val
 305 310 315 320
 Pro Val Glu Ser Thr Ala Pro Phe Cys Asn Asn Lys Gly Lys Ile Ile
 325 330 335

<210> 169
 <211> 331
 <212> PRT
 <213> Vespula vulgaris (Yellow jacket) (Wasp)

<400> 169
 Ser Glu Arg Pro Lys Arg Val Phe Asn Ile Tyr Trp Asn Val Pro Thr
 1 5 10 15
 Phe Met Cys His Gln Tyr Asp Leu Tyr Phe Asp Glu Val Thr Asn Phe
 20 25 30
 Asn Ile Lys Arg Asn Ser Lys Asp Asp Phe Gln Gly Asp Lys Ile Ala
 35 40 45
 Ile Phe Tyr Asp Pro Gly Glu Phe Pro Ala Leu Leu Ser Leu Lys Asp
 50 55 60
 Gly Lys Tyr Lys Lys Arg Asn Gly Gly Val Pro Gln Glu Gly Asn Ile
 65 70 75 80
 Thr Ile His Leu Gln Lys Phe Ile Glu Asn Leu Asp Lys Ile Tyr Pro
 85 90 95
 Asn Arg Asn Phe Ser Gly Ile Gly Val Ile Asp Phe Glu Arg Trp Arg
 100 105 110
 Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Lys Ile His Lys Asn Phe
 115 120 125
 Ser Ile Asp Leu Val Arg Asn Glu His Pro Thr Trp Asn Lys Lys Met
 130 135 140
 Ile Glu Leu Glu Ala Ser Lys Arg Phe Glu Lys Tyr Ala Arg Phe Phe
 145 150 155 160
 Met Glu Glu Thr Leu Lys Leu Ala Lys Lys Thr Arg Lys Gln Ala Asp
 165 170 175
 Trp Gly Tyr Tyr Gly Tyr Pro Tyr Cys Phe Asn Met Ser Pro Asn Asn
 180 185 190
 Leu Val Pro Glu Cys Asp Val Thr Ala Met His Glu Asn Asp Lys Met
 195 200 205
 Ser Trp Leu Phe Asn Asn Gln Asn Val Leu Leu Pro Ser Val Tyr Val
 210 215 220
 Arg Gln Glu Leu Thr Pro Asp Gln Arg Ile Gly Leu Val Gln Gly Arg
 225 230 235 240
 Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys
 245 250 255
 Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Glu Thr Asn Thr Phe

260	265	270
Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Val Ile Asn		
275	280	285
Gly Gly Asp Gly Ile Ile Trp Gly Ser Ser Ser Asp Val Asn Ser		
290	295	300
Leu Ser Lys Cys Lys Arg Leu Gln Asp Tyr Leu Leu Thr Val Leu Gly		
305	310	315
Pro Ile Ala Ile Asn Val Thr Glu Ala Val Asn		
325	330	

<210> 170
<211> 227
<212> PRT
<213> *Vespula vulgaris* (Yellow jacket) (Wasp)

<400> 170

Met Glu Ile Ser Gly Leu Val Tyr Leu Ile Ile Val Thr Ile Ile		
1	5	10
		15
Asp Leu Pro Tyr Gly Lys Ala Asn Asn Tyr Cys Lys Ile Lys Cys Leu		
20	25	30
Lys Gly Gly Val His Thr Ala Cys Lys Tyr Gly Ser Leu Lys Pro Asn		
35	40	45
Cys Gly Asn Lys Val Val Val Ser Tyr Gly Leu Thr Lys Gln Glu Lys		
50	55	60
Gln Asp Ile Leu Lys Glu His Asn Asp Phe Arg Gln Lys Ile Ala Arg		
65	70	75
		80
Gly Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn		
85	90	95
Met Lys Asn Leu Val Trp Asn Asp Glu Leu Ala Tyr Val Ala Gln Val		
100	105	110
Trp Ala Asn Gln Cys Gln Tyr Gly His Asp Thr Cys Arg Asp Val Ala		
115	120	125
Lys Tyr Gln Val Gly Gln Asn Val Ala Leu Thr Gly Ser Thr Ala Ala		
130	135	140
Lys Tyr Asp Asp Pro Val Lys Leu Val Lys Met Trp Glu Asp Glu Val		
145	150	155
		160
Lys Asp Tyr Asn Pro Lys Lys Lys Phe Ser Gly Asn Asp Phe Leu Lys		
165	170	175
Thr Gly His Tyr Thr Gln Met Val Trp Ala Asn Thr Lys Glu Val Gly		
180	185	190
Cys Gly Ser Ile Lys Tyr Ile Gln Glu Lys Trp His Lys His Tyr Leu		
195	200	205
Val Cys Asn Tyr Gly Pro Ser Gly Asn Phe Met Asn Glu Glu Leu Tyr		
210	215	220
Gln Thr Lys		
225		

<210> 171
<211> 206
<212> PRT
<213> *Vespula vidua* (Yellow jacket) (Wasp)

<400> 171

Lys Val Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr		
1	5	10
		15

Ala Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Met Val
 20 25 30
 Val Lys Ala Tyr Gly Leu Thr Glu Ala Glu Lys Gln Glu Ile Leu Lys
 35 40 45
 Val His Asn Asp Phe Arg Gln Lys Val Ala Lys Gly Leu Glu Thr Arg
 50 55 60
 Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val
 65 70 75 80
 Trp Asn Asp Glu Leu Ala Asn Ile Ala Gln Val Trp Ala Ser Gln Cys
 85 90 95
 Asn Tyr Gly His Asp Thr Cys Lys Asp Thr Glu Lys Tyr Pro Val Gly
 100 105 110
 Gln Asn Ile Ala Lys Arg Ser Thr Thr Ala Ala Leu Phe Asp Ser Pro
 115 120 125
 Gly Lys Leu Val Lys Met Trp Glu Asn Glu Val Lys Asp Phe Asn Pro
 130 135 140
 Asn Ile Glu Trp Ser Lys Asn Asn Leu Lys Lys Thr Gly His Tyr Thr
 145 150 155 160
 Gln Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys
 165 170 175
 Tyr Val Lys Asp Glu Trp Tyr Thr His Tyr Leu Val Cys Asn Tyr Gly
 180 185 190
 Pro Ser Gly Asn Phe Arg Asn Glu Lys Leu Tyr Glu Lys Lys
 195 200 205

<210> 172

<211> 202

<212> PRT

<213> Vespa mandarinia (Hornet)

<400> 172

Asn Asn Tyr Cys Lys Ile Lys Cys Arg Ser Gly Ile His Thr Leu Cys
 1 5 10 15
 Lys Phe Gly Ile Ser Thr Lys Pro Asn Cys Gly Lys Asn Val Val Lys
 20 25 30
 Ala Ser Gly Leu Thr Lys Ala Glu Lys Leu Glu Ile Leu Lys Gln His
 35 40 45
 Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Lys
 50 55 60
 Pro Gly Pro Gln Pro Pro Ala Lys Ser Met Asn Thr Leu Val Trp Asn
 65 70 75 80
 Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Gly Gln Cys Asp Tyr
 85 90 95
 Gly His Asp Val Cys Arg Asn Thr Ala Lys Tyr Ser Val Gly Gln Asn
 100 105 110
 Ile Ala Glu Asn Gly Ser Thr Ala Ala Ser Phe Ala Ser Val Ser Asn
 115 120 125
 Met Val Gln Met Trp Ala Asp Glu Val Lys Asn Tyr Gln Tyr Gly Ser
 130 135 140
 Thr Lys Asn Lys Leu Ile Glu Val Gly His Tyr Thr Gln Met Val Trp
 145 150 155 160
 Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr Ile Glu Asn
 165 170 175
 Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
 180 185 190
 Ile Gly Asn Glu Pro Ile Tyr Glu Arg Lys

195

200

<210> 173
<211> 191
<212> PRT
<213> Zea mays (Maize)

<400> 173
Met Thr Ala Cys Gly Asn Val Pro Ile Phe Lys Asp Gly Lys Gly Cys
1 5 10 15
Gly Ser Cys Tyr Glu Val Arg Cys Lys Glu Lys Pro Glu Cys Ser Gly
20 25 30
Asn Pro Val Thr Val Phe Ile Thr Asp Met Asn Tyr Glu Pro Ile Ala
35 40 45
Pro Tyr His Phe Asp Leu Ser Gly Lys Ala Phe Gly Ser Leu Ala Lys
50 55 60
Pro Gly Leu Asn Asp Lys Leu Arg His Cys Gly Ile Met Asp Val Glu
65 70 75 80
Phe Arg Arg Val Arg Cys Lys Tyr Pro Ala Gly Gln Lys Ile Val Phe
85 90 95
His Ile Glu Lys Gly Cys Asn Pro Asn Tyr Val Ala Val Leu Val Lys
100 105 110
Phe Val Ala Asp Asp Gly Asp Ile Val Leu Met Glu Ile Gln Asp Lys
115 120 125
Leu Ser Ala Glu Trp Lys Pro Met Lys Leu Ser Trp Gly Ala Ile Trp
130 135 140
Arg Met Asp Thr Ala Lys Ala Leu Lys Gly Pro Phe Ser Ile Arg Leu
145 150 155 160
Thr Ser Glu Ser Gly Lys Lys Val Ile Ala Lys Asp Ile Ile Pro Ala
165 170 175
Asn Trp Arg Pro Asp Ala Val Tyr Thr Ser Asn Val Gln Phe Tyr
180 185 190

<210> 174
<211> 73
<212> DNA
<213> Unknown

<220>
<223> Primer sequence

<400> 174
gctcgagggt ggaggcgggt caggcggagg tggctctggc ggtggcggat cgttcacccc 60
73
gccaccgtg aag

<210> 175
<211> 33
<212> DNA
<213> Unknown

<220>
<223> Primer sequence

<400> 175
ggcgcccgct catttacccgg gatttacaga cac 33

<210> 176
<211> 32
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 1, 4, 11, 12, 27, 30
<223> Xaa = any amino acid

<400> 176
Xaa Gln Gln Xaa Glu Leu Gln Asp Leu Glu Xaa Xaa Gln Ser Gln Leu
1 5 10 15
Glu Asp Ala Asn Leu Arg Pro Arg Glu Gln Xaa Leu Met Xaa Lys Ile
20 25 30

<210> 177
<211> 32
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 1, 4, 8, 10, 11, 12, 27, 30
<223> Xaa = any amino acid

<400> 177
Xaa Gln Gln Xaa Glu Leu Gln Xaa Asp Xaa Xaa Gln Ser Gln Leu
1 5 10 15
Glu Arg Ala Asp Leu Arg Pro Gly Glu Gln Xaa Leu Met Xaa Lys Ile
20 25 30